

OUTCOMES OF A NON-DEGREE INTERNATIONAL VISITING STUDENT PROGRAM:
THE CASE OF BRAZIL SCIENTIFIC MOBILITY PROGRAM STUDENTS AT THE
UNIVERSITY OF KANSAS

By

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Abstract

This study examines the outcomes of non-degree international visiting students who studied at a U.S. university. Analyzing data from a survey of Brazil Scientific Mobility Program (BSMP) international undergraduate students who studied at the University of Kansas (KU) between fall 2012 and spring 2016, this study serves as a program evaluation of a non-degree international visiting student program called Jayhawk Semester. This study uses literature on study abroad and international students to contextualize non-degree international students in the U.S., and the Input-Environment-Output (IEO) model of college student engagement to understand social and academic engagement.

The independent variables (gender, grades, field of study, program start, program length, participation in orientation, participation in an English program, academic engagement, social engagement, and the last two of which are composite variables) predict five dependent variables that include satisfaction with program, improved English proficiency, improved cross cultural awareness, improved research skills, and interest in completing an advanced degree. A variety of statistical tests identify differences on the five dependent variables between groups of students based on gender, fields of study, program start/arrival, program length, and grades. A series of linear regressions indicate that students who were academically engaged were significantly more likely to be satisfied with the overall program. Academic engagement was also significantly related to interest in pursuing a masters or doctoral degree, and to improved research skills and/or understanding of academic field. Self-reported grades were significantly related to cross cultural awareness. Students who did well academically believed they also gained cross cultural awareness. Additionally, students who were more socially engaged were less likely to assess that their English language skills improved. Similarly, the findings revealed that socially

engaged students were less likely to believe they improved cross cultural awareness. These findings suggest important implications for universities with non-degree international visiting student programs. The results of this study support the theory that academic engagement is important to student success. This study also suggests important implications for future research on non-degree international visiting students.

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Chapter 1

Introduction

In this chapter, I introduce and discuss the Brazil Scientific Mobility Program (BSMP) and the increase in interest in non-degree international student study in the United States. This chapter also provides the purpose of this study and research questions, importance of the study, and the background on the University of Kansas, and the visiting student program, called the Jayhawk Semester Program of which the BSMP students are a part. Finally, the various parts of the Brazil Scientific Mobility Program are explained in detail.

Background

In July 2011, the government of the then newly elected Brazilian President Dilma Rousseff announced a plan to offer study abroad scholarships to 75,000 Brazilian students over a 4 year period (Clark, 2012). The government also encouraged the private sector to fund an additional 25,000 scholarships for a total of 100,000 scholarships to study abroad. The Brazil Scientific Mobility Program (BSMP), or *Ciencia sem Fronteiras* (English translation: science without borders), was launched. BSMP offered full scholarships to undergraduate and graduate students from Brazil to study at institutions around the world (IIE: BSMP, 2014). The size and scope of this program was unparalleled and had never before been attempted anywhere in the world. The program aimed at enhancing the research and development of the country of Brazil through international exchange and research (*Ciencia sem fronteiras*, 2014). In September 2015, it was reported that the program was in jeopardy as the government of Brazil anticipated that they would decrease the funding for the program (Bowater, 2015). The cease in funding came at a time when Brazil forecasted a \$7 billion budget deficit. In summer 2016, the non-degree

undergraduate student program ceased, but the Brazilian government continued to fund doctoral, visiting scholar, and post doc programs.

Although the non-degree BSMP ended in 2016, non-degree international student enrollment has been on the rise in the United States in recent years. The non-degree international student population increased by 17.8% from 79,477 in 2013-14 to 93,587 in 2014-15 in large part due to BSMP (IIE, 2018). Despite the fact that the non-degree BSMP has concluded, there were signs of increased interest in the development of non-degree programs as evidenced by other programs, such as 100,000 Strong in the Americas and Becas Chile's *Ingles Abre Puertas*, or English Open Doors. According to 100,000 Strong in the Americas website (2016), "the goal of *100,000 Strong in the Americas*...is to increase the number of U.S. students studying in the Western Hemisphere to 100,000, and the number of Western Hemisphere students studying in the United States to 100,000 by 2020." This initiative is not solely a non-degree program, but short-term non-degree study is also a component of the program. Similarly, Chile's English Open Doors is a government funded scholarship program that promotes student mobility for Chilean English teaching majors to participate in a non-degree study program for a semester abroad. Finally, and most recently, Argentina introduced a 6-week program for undergraduate students to focus on English language enhancement and audit academic courses in their field of study at U.S. universities (U.S. Embassy in Argentina, 2018). The program called, Friends of Fulbright Argentina, was funded by the government of Argentina and the U.S. Department of State. These are a couple examples of government supported non-degree programs that have been developed over the last several years.

Purpose of the Study

The primary purpose of this study is to examine the academic and co-curricular experiences, and outcomes of Brazilian international undergraduate students who studied at a comprehensive research university in the Midwest, the University of Kansas (KU), as part of the Brazil Scientific Mobility Program through an evaluation of a non-degree international visiting student program, the Jayhawk Semester Program at KU. BSMP students, as non-degree students, come to KU as part of the Jayhawk Semester Program. The Jayhawk Semester Program is discussed in further detail below.

Questions that guide this study include:

1. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict program satisfaction?
2. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict interest in pursuing an advanced degree?
3. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict English language proficiency?
4. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict cross cultural awareness?
5. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict improved research skills and/or knowledge of academic field?

Program outcome measures that were evaluated include academic support and engagement, social engagement, program support, English proficiency, research skills and cross

cultural awareness. The students' inclination to pursue a graduate degree at some point in the future was also assessed.

Based on the available literature, there is a deficiency of research on non-degree international students who study in the United States for a semester or year. This study offers much needed insight into the student experience as a participant in a non-degree international visiting student program for a particular group of students, those in the BSMP. Anecdotally, students seemed to enjoy their semester or yearlong time at KU, but the intention of this study is to gather data to improve current practices related to the Jayhawk Semester Program. In collecting information from previous program participants, we are able to determine which services benefit students, or which may not be as valuable in achieving their program outcomes. The study may also lend support to the idea that the Jayhawk Semester Program staff are meeting student expectations and the study results can, in turn, assist in recruitment strategies of future students on the Jayhawk Semester Program. By knowing "what works" and what students expect from these types of programs, information can be shared with prospective students from Brazil and other parts of the world. Visiting students bring a great deal to KU, not only through their diverse perspectives and sharing of culture, but also through increased revenue from tuition, fees and living expenses. Furthermore, non-degree visiting students have differing needs than degree-seeking students.

This study attempts to determine if the Jayhawk Semester Program is meeting the program outcomes through providing specialized services to the BSMP students. It also seeks to determine if BSMP students feel that the Jayhawk Semester Program contributes to achieving BSMP outcomes, such as increased cross cultural skills, improved research skills, and improved English language proficiency.

Definitions

There are a few terms that need to be defined for the purposes of this study. These definitions will help facilitate understanding of the types of students on these programs, and the amounts of time students may spend on these programs.

Short term program: a program in which international non-degree students study or enroll in an institution in the United States for less than a degree program; this could be anywhere between a few weeks to multiple semesters. In this case, the program under consideration is the Jayhawk Semester Program, which is open to international students interested in studying at the University of Kansas.

International visiting student: a non-degree seeking student usually in an F or J visa status studying at a U.S. institution. For this study, the international visiting students are all from Brazil and are part of the BSMP program; they studied at the University of Kansas in the Jayhawk Semester Program for a semester or more.

Importance of the Study

There is extensive literature on international students' success and transition in U.S. higher education as well as a myriad of literature on U.S. students participating in study abroad (i.e. program outcomes, expectations, program types, etc.) (Twombly, Salisbury, Tumanut, & Klute, 2012). Despite this, the research on international students participating in non-degree programs inside the United States is insufficient. Researchers have paid little attention to international students who participate in non-degree programs for a semester or year. One reason for the limited research on these students may be that these visiting students, or non-degree programs for international students, are not as prevalent and there are fewer visiting students than degree-seeking international students. The trend for international students to study

abroad for a short-term in the United States seems to be increasing in popularity as evidenced by the BSMP and the U.S.-Mexico 100,000 Strong in the Americas initiatives. Furthermore, the need and desire for international students to participate in short-term programs is expanding as students outside the United States want to experience education abroad. The non-degree international student population at U.S. institutions was 85,093 in 2015-16, which was a 7.1% increase over a period of two years from 2013-14 (IIE, 2018). These students are studying on exchanges, short term programs, or enrolled in English language programs (IIE, 2018). Foreign governments and universities also realize that the United States is the top destination for higher education and that by offering a short-term experience, their students will bring what they gained in the United States back to their home university and country (OECD, 2017; IIE, 2018).

Additional data on a number of areas regarding visiting students (i.e. what they expect from that program, and their academic and social experience during the program) can be valuable to enhance the Jayhawk Semester Program, especially now as the Jayhawk Semester Program has gone through a period of growth with the influx of BSMP students. There are potential implications for future students participating in visiting programs, as well as for universities that host visiting international students, and financial sponsors who fund these students. In particular, host universities can greatly benefit from the information found in this study. Universities have the opportunity to enhance their services and support for these specific students based on outcomes of this study, as well as tailor their recruitment techniques to emphasize how the university can meet the students' goals. Bringing more visiting students, not just BSMP, but through other partnerships as well, is valuable to host universities economically and culturally. More international students bring increased revenue, and increased diversity, which is important to the internationalization of a university and its students (NAFSA, 2018;

Zhao, Kuh, & Carini, 2005). The study findings could aid financial sponsoring organizations, like IIE or CAPES, in their recruitment of future students to the program, and assist in university placements as well. Visiting students will benefit from improved support from both the university and sponsor. KU has the responsibility to use the findings to modify or enhance the program in order to make it stronger. Finally, the study could prove useful to the government of Brazil. The funding organization may want to know how BSMP has affected their students and the universities, and if the program has been effective in meeting their objectives, particularly after the termination of the undergraduate non-degree program (Bowater, 2015). The outcomes may also offer insight to other organizations or countries that may be considering implementing a short term study abroad program.

Institutional Background

The University of Kansas (KU) is a public, comprehensive research university located in Lawrence, Kansas. KU's mission emphasizes the three higher education objectives of teaching, research, and service, which reinforce each other (Birnbaum, 1988). KU's mission also stresses its commitment to serving Kansans as well as being an international research university. The mission states that KU "is committed to offering the highest quality undergraduate, professional and graduate programs, comparable to the best obtainable anywhere in the nation. As the AAU research university of the state, KU offers a broad array of advanced graduate study programs and fulfills its mission through faculty, academic and research programs of international distinction" (KU, 2015). KU is an internationally-respected research institution. Part of the mission states that:

the university is dedicated to preparing its students for lives of learning and for the challenges educated citizens will encounter in an increasingly complex and diverse global

community. More than 100 programs of international study and cooperative research are available for students and faculty at sites throughout the world. KU teaching and research draw upon and contribute to the most advanced developments throughout the United States and the world. At the same time, KU's extensive international ties support economic development in Kansas (KU, 2015).

As the mission demonstrates, KU is focused on international partnerships and research as well as educating students as global citizens. By bringing international students to campus, internationalization efforts are enhanced through the perspectives and backgrounds of these diverse students.

During the period under study, KU had 13 schools with over 360 degree programs (KU, 2015). The schools were Liberal Arts and Sciences, including the School of the Arts and School of Public Administration; Architecture, Design, and Planning; Business; Education; Engineering; Health Professions; Journalism and Mass Communication; Law; Medicine; Music; Nursing; Pharmacy; and Social Welfare (KU, 2015). In fall 2017, KU had approximately 24,891 students on the Lawrence campus (OIRP, 2017). Women make up approximately 51% of the student population. Currently, the data on race representation at KU indicates that 69.5% of students were white, 4.3% were black, 6.8% were Hispanic, 4.4% were Asian, 0.5% were American Indian/Alaskan natives, 4.8% were two or more races, and 1% was race/ethnicity unknown (OIRP, 2017). The numbers indicate that there are relatively few minority students. Additionally, 83.8% of students are considered full time, which means they are enrolled in at least 12 credits as an undergraduate and 9 credits as a graduate student. KU has 1,519 faculty members on the Lawrence campus, of which approximately 20% are minorities (OIRP, 2017). Furthermore, 40% of faculty members are female.

Jayhawk Semester Program

The Jayhawk Semester Program was implemented in fall 2012 as the KU Visiting Student Program. The program was re-named “Jayhawk Semester Program” in August 2015 and currently hosts 16 students in fall 2018. Brazil Scientific Mobility Program students who are admitted to KU participated in the Jayhawk Semester Program, which was designed to provide support to non-degree international students who study at KU for a semester or year. In the Jayhawk Semester Program international students can study at KU for one or two semesters (KU Jayhawk Semester, 2017). Students enroll in regular KU courses in their academic field as well as take pre-academic English courses in the Applied English Center. For visiting students, KU does not provide funding for tuition, fees or living expenses; visiting students are self-funded or have funding from their home university, scholarship or home government. The program also has a coordinator who acts as the central point of contact, and assists both the students and their university or financial sponsor with campus policies and procedures from the point of inquiry to program completion. Support services provided include:

- Assistance with admissions processes and liaison with KU undergraduate and/or graduate admissions offices
- Liaison with academic departments regarding admissions placement, program information, and change of majors
- Specialized orientation services and programming
- Assistance with sponsor financial arrangements such as helping students understand Student Account Services’ requirements and setting up third-party billing
- Facilitation of communication between financial sponsor and visiting students

- Guidance to students regarding sponsor policies, procedures and paperwork such as health insurance waivers, financial guarantees, and release forms
- Student counseling on housing, general advising, health or family concerns, and other personal issues
- Provision of regular and special academic progress reports to the sponsoring organization as required
- Coordination of sponsor or partner site visits to KU, including local appointments with students, admissions offices, housing as well as other university units and officials

In order to cover the costs of maintaining a centralized function for partners and students, there is an administrative fee of \$275 per student each term (fall, spring, and summer) assessed for all visiting students. The fee is added to the student's financial account and billed to the financial sponsor.

For the international visiting students at KU, some of the program outcomes include enhancing cross-cultural understanding, improving English language proficiency, and transferring credit to their home universities. From fall 2012, when the Jayhawk Semester Program was established through fall 2014, there had been a 784% increase in participation. KU's visiting student initiative began with 19 students in 2012, and had grown to 168 in 2014 through the development of visiting student partnerships with a number of universities and educational agencies, like IIE (KU International Programs, 2015). Of the 168 visiting students in 2014, 134 were BSMP students, so 80% of the total visiting student enrollment was from BSMP. The Jayhawk Semester Program's growth has been greatly enhanced by partnerships with academic departments on campus. Nineteen academic departments across 6 schools at KU

hosted visiting students for a semester or academic year by permitting them to enroll in their courses as non-degree students.

The Jayhawk Semester Program also offers a series of cultural programming and social events for students to enable them to get out of the classroom and into the campus and Lawrence, Kansas community (KU Jayhawk Semester, 2017). Examples of these activities include a day trip to the World War I Museum and a BBQ lunch in Kansas City, Missouri; a dinner night at a popular restaurant in downtown Lawrence; and a trip to watch the opening season Sporting KC (a Major League Soccer team) match.

The BSMP enrollment in the Jayhawk Semester Program concluded in fall 2016, but the Jayhawk Semester Program continues. The BSMP participation had been steadily declining since 2014. The reason for the decrease is because the government of Brazil began funding fewer students to participate on the program and effectively ended the undergraduate non-degree component of the program in 2016.

Brazil Scientific Mobility Program

When BSMP was announced in July 2011 by the Brazilian government, the Brazilian Ministry of Science and Technology described the purpose of BSMP, formerly known as Science Without Borders, was to educate undergraduate and graduate students in strategic fields like health and life sciences and the science, technology, engineering and mathematics (STEM) fields (Clark, 2012). The program was a joint effort from two sponsoring organizations, CAPES, the Agency for the Coordination and Improvement of Higher Education, and the National Council for Scientific and Technological Development, CNPq (Ciencia sem fronteiras, 2014).

Ciencia Sem Fronteiras (2014) claimed that Brazilian academic institutions and research centers need to internationalize technology and innovation, and therefore, needed to invest in a

program such as BSMP. Factors like the current Brazilian educational system impede international views of science in Brazil. By exposing Brazilian students to highly competitive and entrepreneurial settings, like U.S. higher education, BSMP attempted to lay the groundwork to transform research and development in the country of Brazil (Ciencia sem fronteiras, 2014).

According to the Ciencia sem Fronteiras website (2014), Brazil aimed to counteract the major research challenges in the country through

the consolidation and expansion of science, technology and innovation in Brazil by means of international exchange and mobility. The strategy envisioned aims to (a) increase the presence of students, scientists and industry personnel from Brazil in international institutions of excellence, negotiating the existence of support from the private sector for the payment of the fees involved or the exemption of these fees with Universities or local governments, (b) encourage young talents and highly qualified researchers from abroad to work with local investigators in joint projects, contributing to the capacitation of human resources and promoting the return of Brazilian scientists working overseas, and (c) induce the internationalization of universities and research centers in Brazil by encouraging the establishment of international partnerships and a meaningful review of their internal procedures in order to make the interaction with foreign partners feasible.

To that end, BSMP provided full scholarships to undergraduate and graduate Brazilian students to study at international universities (IIE: BSMP, 2014). The scholarship benefits included travel, monthly living stipend, settlement allowance, health insurance, and required tuition and fees. As intended, the program mainly funded students studying in the STEM fields. BSMP was quite comprehensive in its efforts to internationalize Brazilian higher education.

As a presidential initiative, one of the most remarkable features of BSMP was the undergraduate focus (Sa, 2016). Despite that, there were still difficulties for the program. It appeared that while there was no consultation on the design or priorities of the program, there was also no analysis of the candidates prior to the program being implemented. One of the first issues was the demand, as it turned out that English proficiency among undergraduate students in Brazil was relatively low (Sa, 2016). Additionally, another issue arose from the private sector, which was supposed to fund a portion of the scholarships. There were discrepancies regarding the program goals between the federal government and corporate sponsors that led to corporations pulling their support from the program. Additionally, once the program was implemented, it turned out to be an administrative challenge to administering agencies, like IIE, due to the high volume of participants. The administrative agencies weren't able to properly manage individual student records, provide individual student assistance, and there were regular issues with student stipend payments (Sa, 2016).

In order to provide the full scope of BSMP, I describe the various components of the overall program. Besides the undergraduate yearlong program, BSMP also funded overseas intensive English study, degree-seeking graduate programs and a visiting scholar program for post-doctoral researchers to conduct research in Brazil (Clark, 2012; Ciencia sem fronteiras, 2014).

The undergraduate BSMP provided funding for 12 months of study abroad (IIE: BSMP, 2014). A unique component of the program occurred during the summer term of the 12 month program; students participated in an academic training program, which could be an internship, research or observership. After studying in the United States for a year and completing their academic training, students returned to Brazil to finish their bachelor's degrees. The BSMP

program in the United States was administered by the Institute for International Education (IIE), and was part of the Brazilian government's effort to provide 100,000 scholarships over a period of 4 years to the best Brazilian students for study abroad at the world's top universities.

Apart from the undergraduate non-degree program, there was an intensive English component available for undergraduate BSMP students who needed additional language training. Students could be placed into a summer short-term (6 – 8 week) intensive English program (IEP) or into either a long-term (4 – 6 month) IEP based on their English language levels (IIE: BSMP, 2014). The IEP allowed students the opportunity to improve English skills, network with other students on campus, and learn about American culture. According to the IIE: BSMP website, 2014, “English training is a key component in ensuring that these students have a successful overall program experience.”

As previously mentioned, the program also offered full scholarships to Brazilian graduate students pursuing masters and doctoral degrees in the STEM fields. As well as administering the undergraduate non-degree program, IIE administered the Brazil Scientific Mobility Graduate Program for Brazilian graduate students pursuing a master's program. The scholarship provided 2 years of study in the United States, and the first cohort of grantees began their master's programs in fall 2014 and were expected to graduate by spring 2016 (IIE, 2018). Additionally, CAPES and CNPq began to place a total of 1,500 Brazilians in doctoral degree programs in the United States over a period of 3 years (LASPAU, 2015).

Furthermore, BSMP expanded the academic and research exchange between the United States and Brazil (IIE: BSMP, 2014). As stated, the program goals included promoting scientific research, investing in educational resources, both within Brazil and internationally; increasing international cooperation within science and technology, and engaging students in

global dialogue (Ciencia sem fronteiras, 2014). The total investment of the Brazilian government was expected to be approximately \$2 billion. Additional financial support came from the Federation of Brazilian Banks and Petrobras, a government owned oil company (Clark, 2012).

In July 2014, Brazilian President Rousseff declared that 83,200 scholarships had been granted through BSMP, and that by September 2014, the Brazilian government would reach its goal of awarding over 100,000 scholarships (IIE, 2014 July). Also in July 2014, the second stage of the program was launched by President Rousseff with the announcement that the program would offer an additional 100,000 Brazilian students the opportunity to study abroad over a period of 4 years. The President reiterated the program goals of educating students at all levels. In her speech reaffirming the program, President Rousseff claimed BSMP “was created to guarantee conditions to generate new innovation here, to generate interests in the sciences and through the application of technology in all areas. In industry, in agriculture and above all, to enable research in the basic sciences. With this we are opening new frontiers. We are opening horizons for our young people” (IIE, 2014 July). In September 2015, it was announced that the 2016 scholarship program’s budget had been cut. Within 5 years of the establishment of the program, due to the devaluation of the Brazilian real and limits on the national budget, some scholarships were cancelled (Sa, 2016). Although it was enough to maintain existing scholarships and partnerships, new scholarships were then suspended (Lu, 2015; Sa, 2016).

In large part due to BSMP, the number of Brazilians studying in the United States had increased by 78.2% from 2013-14 to 2014-15 with a growth from 13,286 to a total of 23,675 students (IIE, 2018). Brazil was ranked as 6th overall in 2014-15 for leading places of origin for U.S. higher education (IIE, 2018). Brazil was one of the fastest growing countries sending

students (both degree seeking and non-degree seeking) to the United States (IIE, 2018). That has since decreased and in 2015-16 there were 19,370, an 18.2% decrease from the previous year. With the termination of the undergraduate BSMP scholarship, those numbers have further decreased to 14,620 Brazilians studying in the United States in 2017-18 (IIE, 2018).

Half of all the BSMP scholarship recipients were expected to study in the United States (Ortiz, 2014). According to the Ciencia sem Fronteiras website (2014), the program had partnerships with the following countries: Australia, Austria, Belgium, Canada, Czech Republic, China, Denmark, Finland, France, Germany, Netherlands, Hungary, India, Ireland, Italy, Japan, Norway, New Zealand, Portugal, Russia, South Korea, Spain, Sweden, Ukraine, United Kingdom, and United States. These country partners received undergraduate and graduate students, visiting doctoral and postdoctoral scholars and faculty from Brazil as well as sent visiting researchers to Brazil.

Starting in 2012, the University of Kansas (KU) hosted a total of 181 students from BSMP. The students were generally between the ages of 20 and 25 years old. The most popular majors of the KU BSMP students were architecture and urban design (24), civil engineering (26), electrical engineering and computer science (26), mechanical engineering (14), petroleum engineering (31), and pharmacy (12). In fall 2015 the University of Kansas had 72 BSMP students in over 10 majors. An additional 28 students arrived summer and fall 2015, which was the last cohort of BSMP at KU. The number of students who were admitted as non-degree students to KU each year fluctuated as BSMP adapted first to the quick growth of the program and then to the economic situation in Brazil that impacted its ability to fund the program. In fall 2012, the first semester that KU hosted, 10 BSMP students were enrolled. The semester with the largest enrollment was fall 2014 with 119 students. The undergraduate BSMP students at KU

were able to take part in both a pre-academic program through the Applied English Center (AEC) for either short-term (6 – 8 weeks) or long-term (1 semester) and an academic program, in which they enrolled in courses in their field of study for 2 academic semesters. Not all students completed the pre-academic English component, but a majority of them did. For example, in the spring 2015 semester, there were 72 total BSMP enrolled at KU, and 60 of those students had participated in the AEC for a pre-academic programs either in spring 2014 or fall 2014. In that program they gained language and academic skills to prepare them for the rigorous courses in their major areas.

Conclusion

BSMP was a comprehensive and ambitious program aimed at internationalizing and further developing research, development and higher education in Brazil. This particular study focuses on one facet of BSMP, the undergraduate non-degree Brazilian students, at an institution in the United States. The study explores the academic and social engagement of BSMP undergraduates who participated in the Jayhawk Semester Program, and their perceptions of how the Jayhawk Semester Program provided support so that they could meet the intended outcomes.

Chapter 2

Literature Review

Since this study is a program evaluation that focused on international visiting, non-degree seeking students, from Brazil specifically, in the United States, the literature review includes research on both students participating in study abroad outside the United States and international students who are studying in the United States as well as literature on program evaluation. It is valuable to comprehend the literature regarding international students coming to the United States, regardless of the length of time or student status (i.e. degree seeking versus non-degree seeking). Furthermore, the literature on students studying abroad provides context and background and offers a model for comparison for research on international non-degree students studying in the United States. This chapter also includes a description of the Input-Environment-Output (IEO) theory by Astin (2003) to provide a better grasp of how the Jayhawk Semester Program is designed. Through the lens of IEO, the various pieces of Jayhawk Semester were validated and studied.

Study Abroad Literature

Study abroad programs have risen in popularity over the last decade, as societies increasingly believe that students need to have a better understanding of the world. Universities and businesses as well as governments promote study abroad with the idea that students become culturally competent, which means students will acquire behaviors and attitudes that will help them to work effectively in cross-cultural situations (Cross, Bazron, Dennis & Isaacs, 1989). This competence is ever more valuable for students' personal and professional success (Twombly, Salisbury, Tumanut, & Klute, 2012). It wasn't until the 1980s that research showed the real contributions of study abroad programs on student development (Dekaney, 2008). In

recent decades there has been growing research supporting that study abroad adds to students' cross-cultural development, such as enhanced worldview, perspective, interest in language, history, and travel (Kitsantas, 2004; Twombly et al., 2012).

Additionally, another justification for study abroad is economic and future employment factors. As countries become more interconnected and participation in education grows, governments and students increasingly believe higher education in a foreign country can benefit students' by helping them gain a greater understanding of cultures and languages, and thus make students more marketable for future employment (OECD, 2017). Host countries also profit from a source of income from international students as they often provide tuition fees and living expenses to the local economy.

The number of U.S. students who participated in study abroad increased by 3.8% from 2014-2015 to 2015-2016, with the total number of students at 325,339 in 2015-2016 (IIE, 2018). The majority of U.S. students who study abroad outside the United States major in the STEM (science, technology, engineering and math) fields at 25.2%, with 17.1% in the social sciences and 20.9% in business (IIE, 2018). This is in sharp contrast to the "traditional" study abroad student demographics. Historically, students studying humanities, social sciences and foreign languages were the majority who participated in study abroad (Stallman, Woodruff, Kasravi, & Comp, 2010).

Individual student motivations for students to study abroad, either to or from the United States, vary or are often a combination of factors (Twombly et al., 2012). Motives may include improving foreign language proficiency, gaining cultural understanding and immersing oneself into the culture, enhancing career prospects by having international experience, and even just

spending time abroad, which can be envisioned as a "break" from typical academic life (Twombly et al., 2012; OECD, 2017).

Finally, it is a strongly held belief among study abroad practitioners that the longer a student studies abroad, the more they benefit students academically, socially, culturally and linguistically. There is significant quantitative research supporting positive outcomes from longer programs. Study abroad length “has a significant impact on students in the areas of continued language use, academic attainment measures, intercultural and personal development, and career choices. Most importantly, the study illustrates that this impact can be sustained over a period as long as 50 years” (Dwyer, 2004).

The literature on study abroad takes a look at short term non-degree study in a foreign country. Because the international students on the Jayhawk Semester Program are studying for a semester or year at KU, the literature on study abroad provides more context for their experience.

Literature on International Students

Following the attacks of 9/11, the United States strengthened its visa and immigration requirements, and the post-9/11 political climate slowed growth in international student enrollment. In the mid-2000s, international students found it increasingly difficult to obtain student visas to study in the United States (Verbik & Lasanowski, 2007). During this time, overall policies in place in the United States were argued to be less accommodating towards international students than some of the country’s major higher education competitors, like the United Kingdom or Australia (Verbik & Lasanowski, 2007). In recent years, there have been significant changes in the infrastructure and capacity of higher education systems throughout the world so the United States has more competition than ever for the international student market (Verbik & Lasanowski, 2007).

Despite this, the United States is currently the country that receives the highest number of international students (OECD, 2017). Additionally, some U.S. immigration policies have been loosened for countries such as China, which, with 32.5% of the total international population, is still the largest country sending students to study in the U.S. (IIE, 2018). Along with China, India (17.3%), South Korea (5.4%), Saudi Arabia (4.9%), and Canada (2.5%) make up the top 6 sending countries.

As students pursue higher levels of education, they become more mobile, and according to OECD (2017, p. 288), over a quarter of enrollment worldwide at the doctoral level is comprised of international students. Furthermore, international students tend to enroll in science, technology, engineering and mathematics (STEM) fields, and business and law programs. These disciplines in particular are often central in innovation and job creation in home countries (OECD, 2017). Some may believe student mobility is lost talent, particularly at the doctoral level, however, these students can still contribute to the upgrading of technology and capacity building in their home countries, as long as they maintain relationships or return home after they complete their program (OECD, 2017).

This increase in international student mobility has led to more attention on policy. There are a number of reasons for the general increase in student mobility, which is defined as an opportunity for undergraduate or graduate students to study abroad, and can be either inbound (international students studying in the United States) or outbound students (U.S. students studying outside the United States). Some of the reasons for this increase include: a greater demand for higher education and the value of studying abroad; policies to encourage student mobility in geographic regions; and government policies to support students in specific fields (OECD, 2017). One example of recent policies that encourage students to study abroad was the

Brazil Scientific Mobility Program (BSMP) initiative, which was described in detail previously and is the focus of the present study. Also, international student mobility is seen as “an opportunity to access quality education, acquire skills that may not be taught at home, and get closer to local labor markets that offer higher returns on education” (OECD, 2017, p. 286).

Although both the United States and other traditional European destinations, like the United Kingdom, Germany, and France, are finding greater competition from countries like Russia, China, Singapore, and Malaysia in hosting international students, the United States and English-speaking destinations are still the leading host countries (de Wit, Ferencz, & Rumbley, 2013). In fact, over the past several decades the migration of international students to study in the United States has increased substantially (de Wit, et al., 2013). According to OECD (2017), of the 3.3 million international students who study in the OECD countries, the United States hosted the largest percentage of international students, with 30% of all international students in 2015, while the United Kingdom followed at 14% international students (OECD, 2017). Australia hosted 10% indicating the largest receiving countries are still advanced English-speaking economies (de Wit, et al., 2013; OECD, 2017).

Overall, international students studying in the United States grew 3.4% from the 2015-16 to 2016-17 academic years (IIE, 2018). In the 2016-17 academic year, 1,078,822 international students were in the United States, which is 5.3% of total university enrollment. The international student population is at its highest percentage of the total higher education enrollment since 9/11. Additionally, there are now more international undergraduate students than international graduate students studying in the United States. According to IIE (2018), 439,019 of international students are undergraduates and 391,124 are graduate students. Despite this growth in overall international student enrollment in U.S. higher education, new

international student enrollment (students who enrolled for the first time in a U.S. college or university) decreased by 3.3% from fall 2015 to fall 2016. Finally, there are 72,984 non-degree seeking students, who are studying on exchanges, short term programs, or enrolled in English language programs (IIE, 2018). The top fields of study of international students in the United States are engineering (21.4%), business and management (18.6%), math and computer science (15.5%), and social sciences (7.7%) (IIE, 2018).

International students also bring rich diversity to U.S. college campuses. This diversity is vital to preparing culturally competent students who are able to work effectively with a wide variety of individuals (Sandhu, 1995; Zhao, Kuh, & Carini, 2005). Besides enriching the campus environment culturally, international students bring \$39 billion in revenue to the country's economy through tuition and living expenses, making higher education one of the United States' largest service exports (NAFSA, 2018; IIE, 2018). In 2015-16, the primary source of funding for international students to attend college was personal or family funds, however, 7% of the primary source of funding was from a foreign government or university and 17% of the primary source of funding was from a U.S. college or university, indicating that governments and universities also see the value in providing funding sources to enhance student mobility (IIE, 2018).

Since the election and inauguration of Donald Trump, U.S. colleges and universities have been dealing with the "Trump effect" on recruitment and retention of international students (Fischer, 2017 February). The global American campus in which students are sent to study abroad, international students are welcomed from across the globe, and research and partnerships are often internationally focused, is at odds with an "America first" attitude of the Trump administration. Soon after his inauguration, in March 2017 Trump signed an executive order

effectively banning travelers from half a dozen Muslim majority countries. The executive order was revamped in September 2017 and the new rules vary by country, some of which the citizens are not allowed to visit the U.S., and others have increased inspection of visa applications (Fischer, 2017 September). On June 26, 2018, the U.S. Supreme Court upheld the Trump Administration's September 2017 proclamation limiting travel into the U.S. for citizens of Iran, Libya, Somalia, Syria, Yemen, North Korea and Venezuela. Chad and Iraq were listed in previous travel bans, but have been removed from the list.

In fall 2017, the United States saw decreases in new international student enrollment, and it was reported that there was a 2.2% drop in undergraduate international student enrollment from fall 2016 to fall 2017 and a 5.5% drop in graduate international student enrollment for the same time period (Redden, 2018). The United States saw years of steady growth in overall international enrollment prior to fall 2017. The decreases were widely attributed to the current political climate and uncertainty about immigration policies in the United States.

The international student literature provides greater background and understanding for the previous rise in international student numbers, particularly from Brazil, as well as popular international student fields of study and funding sources and the current state of the international student population in the United States. Since this study focuses on international students from Brazil, the literature regarding international students coming to the U.S. provides valuable context for the students and the study.

Program Evaluation

This study is a program evaluation. Program evaluations judge “the quality of a program’s performance as it relates to some aspect of its effectiveness in producing social benefits” (Rossi, Lipsey & Freeman, 2004, p. 18). Rossi, Lipsey and Freeman (2004) suggest

that there are five purposes or types of evaluation and that the purposes can be hierarchical with one building on the previous (Twombly, 2015). Program evaluations usually assess either the need for the program; the program's design; implementation and service delivery; outcomes, or impact; and the program's efficiency. According to Twombly (2015), the aim of most program evaluations is to define the outcomes of a program's interventions and to what extent they are a result of the program rather than external sources. This study assesses the outcomes of the Jayhawk Semester Program on the Brazil Scientific Mobility Program students at the University of Kansas.

Twombly (2015) states that a program evaluation should have a simple logic that applies to the evaluation activity irrespective of the specific evaluation approach. First, the components of the program must be identified. Then the evaluator should identify the standards the program must meet in order to be effective. Next, the data is collected in order to assess the criteria in order to compare with the standards. And finally, the collected data must be analyzed and synthesized in order to judge the value of the program.

Program evaluations are typically either formative or summative. This study was summative in that its purpose was to summarize a judgement on the performance of the Jayhawk Semester Program (Rossi, Lipsey & Freeman, 2004; Twombly, 2015). Additionally, the results could influence decisions about program modifications or improvements. Also, a summative evaluation is more appropriate since this type of evaluation is conducted for programs that have been in existence for a period of time (Lopez, 2014). The Jayhawk Semester Program at KU was established in fall 2012, which was also the first semester BSMP students enrolled at KU. Since that time there has been no evaluation of the program.

Since the Jayhawk Semester Program is in its seventh year, the specific type of evaluation used for this study was an outcomes assessment. An outcomes assessment was completed in order to determine that the program was the cause of the intended outcomes (Rossi, Lipsey & Freeman, 2004). An outcomes assessment in higher education generally refers to assessing the outcomes of an ongoing co-curricular or academic program (Twombly, 2015).

The definition of outcome is “the state of the target population or the social conditions that a program is expected to have changed” (Rossi, Lipsey and Freeman, 2004, p. 205). According to Twombly (2015), outcomes are usually “attitudes, behaviors, or skills” of the students or population participating in the program (p. 68). These types of outcomes are generally what researchers are considering when outcomes assessment is discussed (Twombly, 2015). On the other hand, program outcomes that are the goals of the program itself, such as providing support regarding the admissions process to a university, are different from the intended outcomes of the participants after the intervention, such as improving English language after studying for a year in the United States.

Additionally, there are varying dimensions of outcomes, such as level of achievement, level of change in performance, or direct and indirect outcomes (Twombly, 2015). Direct impact is made on the actual program participants, but indirect impact is more difficult to evaluate (Twombly, 2015). This evaluation looked at the indirect outcomes, such as enhanced English proficiency, cross-cultural attitudes, and understanding of research, on BSMP students who participated in the Jayhawk Semester Program.

In order to identify learning outcomes to be assessed, they must be relevant and measurable (Rossi, Lipsey & Freeman, 2004; Twombly, 2015). Not every outcome that is identified needs to be measured. The program goals are often the appropriate place to begin

identifying outcomes and therefore, for this study the specialized services provided by the Jayhawk Semester Program and the BSMP goals were considered when identifying the outcomes.

A good outcomes statement should clearly articulate how a skill will be demonstrated (Bresciani, Zelna, and Anderson, 2004). The learning outcomes for the BSMP students on the Jayhawk Semester Program were the following:

As a result of participating in the Jayhawk Semester Program, BSMP students will

- Improve English proficiency in reading, writing and listening;
- Demonstrate cross-cultural understanding and communication;
- Develop or enhance knowledge of research or work in undergraduate field of study (major);
- Identify or solidify future career and academic goals, specifically enrolling in graduate school. (Ciencia sem fronteiras, 2014)

It is paramount that the outcomes are able to be measured. To collect data on outcomes, there are few options. Measurable outcomes do not often have already established measurement procedures to use, and developing reliable instruments can be difficult due to the expense and the time it takes. It is more effective to use a pre-existing measurement procedure; however, if an evaluator does develop their own tool for data collection, they need to be reliable, valid and sensitive (Bresciani, Zelna, & Anderson, 2004; Rossi, Lipsey & Freeman, 2004). Outcome measures must produce the same results reliably when the measurement is repeated; outcome measures must measure what it is intended to measure in order for it to be valid, and it must be able to detect differences in outcomes for it to be sensitive (Twombly, 2015). The outcome measure for this program evaluation was a survey. Student learning outcomes were indirectly

measured since the participants reflected on their learning and experience through a survey instead of demonstrating the skills they gained (Twombly, 2015).

Survey research is one of the most commonly used in educational research (Wiersma, 1991). Surveys “measure attitudes, opinion, or achievements” (Wiersma, 1991, p. 169). This evaluation used a cross-sectional design, which collects data at a single point in time from a sample representing a given population (Wiersma, 1991). The participants for this survey were a sample of the total population of BSMP students who completed the Jayhawk Semester Program at KU. The survey provided key information from the student participants on their perceptions and attitudes towards the Jayhawk Semester Program (Bresciani, Zelna, & Anderson, 2004).

Input-Environment-Output (IEO) Theory

In order to further understand the basis for the development of the Jayhawk Semester Program, I use the Input-Environment-Output (IEO) theory (Astin, 2003). There are a number of key components that are valuable to the success of Jayhawk Semester students. They include contact, or interaction, with the program staff; peer to peer interaction; faculty interaction; and the services or resources the program provides to the students.

First, I briefly describe the Input-Environment-Output (IEO) model (Astin, 2003). Input refers to the student’s characteristics and background when they enter college, including gender, race, age, and socio-economic status. Environment is the programming, policies, peers, and faculty interactions that a student experiences in college. Output refers to the characteristics the student has after exposure to the environment; it can include job placement, income, and overall satisfaction.

For the purposes of this study, I focus almost entirely on the concept of environment, however, the input specifically focuses on gender, and field of study. Within environment there

are multiple theories including involvement, engagement, and integration that often overlap and guide practice (Astin, 2003; Kuh, 2003; Tinto, 2003; Wolf-Wendel, Ward & Kinzie, 2009). The environment for this study is participation in the Jayhawk Semester Program at the University of Kansas, and more specifically, the students' involvement, engagement and integration with the services provided by the program.

Involvement, according to Astin (2003), is the psychological and physical energy students commit to their social and academic experience in college. The more involved students are in college experiences, the more successful they will be in college (Astin, 1984). Astin (1984) described an involved student as someone who allocates time and energy to studying, participates in organizations, and interacts with faculty and peers. Involvement is a strong method of increasing students' cognitive and emotional development (Astin, 2003). Peer groups have a significant effect on students by influencing their involvement in activities (Astin, 1993). In fact, the peer group interaction had the most significant effect on a student's academic and personal development. The first thing all international students do when they arrive at KU is participate in the mandatory international student orientation, which provides not only information on campus resources, advising and immigration support, but also significant peer group interaction. Each participant is placed in a smaller group with a group leader and they meet with that group daily. Additionally, the BSMP cohorts spend much of their time together, either in classes, research or in the residence halls. Since many of the BSMP students have similar majors, they often enroll in the same classes. In addition, starting in 2014, the cohorts lived in the same residence hall. The relationships with other BSMP students and American students may influence a student's participation in activities and their academic success (Astin, 1993).

Astin (1993) stated that faculty interactions were second only to peer group in influencing student development. Faculty interaction has a strong positive effect on student outcomes like bachelor's degree attainment, critical thinking and writing skills, GPA, retention and preparation for graduate school (Astin, 1993; Kuh, 2003; Tinto, 2003; Wolf-Wendel et al., 2009). Interaction with faculty is crucial to student success so the research opportunities the BSMP students have with faculty could have a significant impact on the Jayhawk Semester Program outcomes (Astin, 2003). In the past, the program has provided contact details so that students can communicate with advisors and faculty in their departments. The program encourages students to talk to their professors about classes and research opportunities, but this hasn't been a systematic process so far.

Student engagement, according to Kuh (2003), is a reciprocal relationship between the student and the institution. Student engagement has two key elements. The first is what the student does in terms of time and energy put into in-classroom and out-of-classroom educational activities. The second element is what the institution does to encourage students to participate in educational activities (Kuh, 2003).

Engagement stresses that the institution act as a conduit for student participation in effective educational practices (Wolf-Wendel et al., 2009). Kuh (2003) developed the National Survey of Student Engagement (NSSE) to measure engagement by using five benchmarks for effective educational practices. The benchmarks are level of academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment.

One of the benchmarks, level of academic challenge, can be measured through assessing how the students felt about whether they received assistance in selecting appropriately

challenging courses. The Jayhawk Semester Program has a process in guiding new students to select courses that interested them and that they felt they had met prerequisite requirements for, and then the program provided the academic departments with the course lists, and transcripts, for a review.

Additionally, like Astin (1984), Kuh (2003) also suggests that student contact with faculty can be meaningful to student outcomes. Kuh (2003) argued that “substantive contact” like working with faculty outside of class or doing research with faculty were meaningful in encouraging students to put forth effort to educationally purposeful activities (p. 29). During the academic training phase of BSMP, the students had an opportunity to work directly with faculty on summer research projects. By offering suggestions on how to connect with faculty in order to find summer research positions, the Jayhawk Semester Program promoted these important relationships. The involvement and engagement theories would agree that it is then up to the students to take advantage of these tips in order to benefit from the interaction with faculty. Depending on the level of interaction between student and professor, this may lead to a more engaged, and thus, a more academically successful student (Kuh, 2003).

Overall, the Jayhawk Semester Program attempted to provide academic, linguistic and social support and structure. Therefore, if the program is functioning as it should, and providing the students with a supportive environment, it will increase the students’ engagement at KU and success both at KU and in reaching their programmatic outcomes. This study measures whether the Jayhawk Semester Program achieved this goal.

Tinto’s (2003) theory of integration is the extent to which students are socially and academically connected to their institution. The integration theory also involves a mutual and reciprocal relationship between students and their institutions (Wolf-Wendel et al., 2009). To

feel like they belong, students must adopt the norms of the campus culture, but the institution is also responsible for providing support in the process. The Jayhawk Semester Program attempted to offer university support to the BSMP students from start (admission) to finish (providing a transcript after they complete the program). By the program director or assistant corresponding with students from the time they are admitted, the program intends for the students to connect to not only a person, but also to KU. Academic integration is the student's perception of the experiences of interactions with faculty and peers (Wolf-Wendel et al., 2009). The theory suggests that integration predicts retention and also explains voluntary departure from college (Tinto, 2003; Wolf-Wendel et al., 2009). If students are not connecting with the university, their satisfaction, persistence and retention could be lower.

In the case of the BSMP students on the Jayhawk Semester Program, both the students and the program needed to make an effort in order for the students to feel integrated. Through taking full advantage of the resources, services and activities provided by KU and the Jayhawk Semester Program, the students had the opportunity to become integrated and connected with KU, and consequently, should be satisfied with their experience, which is one purpose of the study.

As mentioned previously, output is the students' characteristics after the exposure to the environment (Astin, 2003). Environmental factors, such as co-curricular programming and program policies may affect the BSMP students' output following participation in the program. Astin (1993) and Kuh (2003) agreed that faculty interaction has a strong effect on student outcomes like bachelor's degree attainment, critical thinking and writing skills, and preparation for graduate school. Interest in or preparation for graduate school is one of the outcomes associated with BSMP. Other output characteristics would include improving English and

cultural understanding, research knowledge and considering graduate school. The output characteristics are the outcomes for the program; they are the skills or attitudes that the students are expected to have following participation on the Jayhawk Semester Program.

For this particular study the input variables include the students' backgrounds and characteristics, such as gender and field of study. The environmental variables are the programing, services and interaction with the program staff; peer to peer interaction; and faculty interaction. The output includes improved English proficiency, cross-cultural skills, and research skills, and interest in graduate school. The IEO model provides the lens to understand how the Jayhawk Semester Program meets the BSMP student outcomes.

Conclusion

The Jayhawk Semester Program provided the BSMP students with the infrastructure to become involved, engaged and integrated and thus the basis for them to succeed in meeting the program outcomes. The program offered appropriate and meaningful services, communication, and activities. The theories of involvement, engagement and integration each underscore the importance of staff, faculty and peer interactions. This study evaluated how the environment created by the Jayhawk Semester Program affected the BSMP student outcomes: improving English proficiency, improving cross-cultural understanding and communication, enhancing knowledge of research in their field of study, and increasing interest in graduate study.

Chapter 3

Research Methodology

The purpose of this study was to conduct a program evaluation of the Jayhawk Semester Program at the University of Kansas, a non-degree short term program in the United States designed for international undergraduates. In this chapter, I present the outcomes evaluation process as described by Rossi, Lipsey, and Freeman (2004) and Twombly (2015). Then I describe the research methodology that was used to examine the experience of the BSMP students who participated on the Jayhawk Semester Program. I also present the research design, data sources and study sample, and discuss the dependent and independent variables used to study the research questions. Finally, I describe the data analysis process and study limitations.

First, the five research questions addressed in this study were:

1. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict program satisfaction?
2. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict interest in pursuing an advanced degree?
3. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict English language proficiency?
4. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict cross cultural awareness?
5. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict improved research skills and/or knowledge of academic field?

Program Evaluation Process

The study was a program evaluation and was quantitative in nature. The quantitative paradigm was used in order to provide data that could be statistically analyzed. Since the Jayhawk Semester Program has been in existence for over 6 years, the evaluation was done using an outcomes assessment. An outcomes assessment aids in determining that what we hope to accomplish is happening, i.e. the program is producing the intended outcome (Twombly, 2015).

Table 1 illustrates the goals of the Jayhawk Semester Program and outcomes of the non-degree undergraduate BSMP.

Table 1

Jayhawk Semester and BSMP Goals and Outcomes

Goals of Jayhawk Semester Program	Outcomes of BSMP (non-degree undergraduate program)
<ul style="list-style-type: none"> • Assist in smooth transition to KU through <ul style="list-style-type: none"> ○ Pre-arrival information and communication ○ Course selection and placement ○ Orientation • Provide support during program through <ul style="list-style-type: none"> ○ Acting as liaison between sponsor and students ○ Advising/counseling on housing, meals, academics, health and personal issues ○ Special programming ○ Guidance on resources and policies of sponsor and KU • Continued support through <ul style="list-style-type: none"> ○ Transcripts and special letters to earn transfer credit ○ Certificate of program participation ○ Advising on transfer credit, KU policies, and graduate school 	<ul style="list-style-type: none"> • Improve English and cross-cultural understanding (implicit) • Enhance research knowledge and focus through academic training (explicit) • Interest in graduate school (explicit) • (Ciencia sem fronteiras, 2014; IIE: BSMP, 2014)

As stated in chapter 2, the learning outcomes for the BSMP students on the Jayhawk Semester Program were the following:

As a result of participating in the Jayhawk Semester Program, BSMP students will

- Improve English proficiency in reading, writing and listening;
- Demonstrate cross-cultural understanding and communication;
- Develop or enhance knowledge of research or work in undergraduate field of study (major);
- Identify or solidify future career and academic goals, specifically enrolling in graduate school.

Role of Researcher

Because I am the primary researcher in this study, I will explain my relationship to the program and the study participants. I am the program coordinator for the Jayhawk Semester Program, and manage all aspects of the program. I was part of the implementation team for Jayhawk Semester when it was established in fall 2012, and therefore have detailed knowledge of the program, its history and former student participants. Additionally, I am the primary advisor to the students, and get to know many of them well throughout their program.

Also, I have personal connections to Brazil. My husband is from Paraguay, a neighboring country to Brazil, and I travel regularly to that area of the world. I have visited Brazil three times for a week each time on personal trips to visit friends, and thus I have gained some knowledge of Brazil, the Portuguese language, and the Brazilian culture.

None of the students who participated in this study were personal connections, and I came to know them all through my work with the Jayhawk Semester Program. However, due to

my understanding of the culture, I easily connected with the students, and developed a great rapport with the groups who came to KU as part of BSMP.

The relationships I developed both negatively and positively influenced this study. The most positive aspect was that the students recognized my name and email, and this aided in the response rate, as many of them were willing to complete the survey I sent. One negative aspect is that my relationship to them possibly influenced the students' responses. One might wonder if they responded more positively because it was I who invited them to participate. If the request to complete the survey came from someone who was unknown to them, would the responses have been more negative, or neutral?

Research Design

The survey was developed to gather quantitative information about the social and academic engagement, as well as programmatic support of the BSMP students who have completed the Jayhawk Semester Program. Student learning outcomes were indirectly measured through the survey since the participants reflected on their learning and experience through a survey instead of demonstrating the skills they gained (Twombly, 2015).

The decision to administer a survey was found to be the most appropriate and best fit to meet the needs of the study. The method of distribution of a survey via email was chosen in order to achieve maximum participation since the participants were located in Brazil, or outside of the United States. It would be beyond the capacity of the evaluator to interview or conduct focus groups with all the program participants.

The methodology for survey research involved several detailed steps; the initial step was defining the research problem (Wiersma, 1991). The research problem included the variables that need to be studied, or outcomes in the case of this specific evaluation. Briefly, the research

problem was that the BSMP students on the Jayhawk Semester Program needed specialized services in order to transition to KU and become involved, engaged, and integrated into campus. Through participation in the Jayhawk Semester Program, the goal for the BSMP students was to meet the outcomes of enhancing their English language proficiency, cross-cultural awareness, research skills and intent to enroll in a graduate program.

Data Sources and Sample

For this program evaluation, the twenty-six survey items used to measure academic and social integration were adapted from an Institutional Integration Scale developed by Pascarella and Terenzini (1980). Additionally, survey questions were developed through the framework of the IEO model, the students' demographic and background information (input), experience at KU (environment), and if they have met the outcomes (output) (Astin, 1993). The program goals of the Jayhawk Semester Program and BSMP were also be used to construct survey questions regarding program participation and satisfaction. The survey contained Likert-scale items, open-ended, and dichotomous questions (Twombly, 2015). The Likert-scale choices for sixteen questions in the instrument were 1=strongly disagree, 2=disagree, 3=somewhat disagree, 4 = neutral, 5=somewhat agree, 6=agree, and 7=strongly agree.

The survey is listed in Appendix A. The survey consisted of Likert-type scales that measured faculty/staff interaction, academic engagement and development; peer interaction and social engagement; participation in Jayhawk Semester components (orientation, Applied English Center, academic training); and satisfaction with program components. There were also self-reported input and environmental variables including gender, field of study, program length and semester start date. Finally, the instrument also consisted of variables that measured self-

reported grades, program satisfaction, increase in English proficiency, research skills and cross-cultural awareness, and plans to pursue an advance degree such as a master's or doctoral degree.

Participants and Data Collection

In order to measure the variables on social and academic engagement, program participation and satisfaction of the KU Jayhawk Semester Program, BSMP cohorts who participated in the Jayhawk Semester Program between fall 2012 through spring 2016 were selected as the study participants. All of the students completed the program and returned to Brazil. As of September 2016, 181 KU BSMP students had returned to Brazil. Of these, 144 participated in the pre-academic English program in the Applied English Center (AEC).

The University of Kansas Human Research Protection Program granted approval to study the participants in September 2016. Before the data collection began, a pilot test was run with a small number of people who were familiar with the Jayhawk Semester Program at KU and international students. The pilot test population received a link to the online survey by email. The pilot test was conducted in order to check for confusion regarding language, ambiguity or poorly written questions (Wiersma, 1991). After the pilot test, there were only minor text changes to the survey. The BSMP students are not native English speakers, and therefore, it was necessary to review the language of the survey instrument with individuals who are experienced in cross-cultural communication.

A total of 181 students were invited to complete the survey about their program at KU. The survey was administered online through Qualtrics. It was administered in English during the fall 2016 semester. The students were invited to participate once via email in September and October of 2016. The researcher sent individualized emails to students. Along with the email invitation and link to Qualtrics survey, they received a Human Subjects informed consent

statement. The students' personal email addresses were accessible through the Jayhawk Semester Program. The initial response rate was high -- at 114 responses, there was a 62.9% response rate. Seventy-one males and 43 females completed the survey.

Research Variables

The independent variables for the study included the individual student background as well as the environmental factors created by the Jayhawk Semester Program. There were ten independent variables. They included gender, grades, field of study, program start semester, program length, participation in orientation, participation in the Applied English Center, academic engagement, social engagement, and program satisfaction. The study had three composite variables: academic engagement, social engagement, and satisfaction with the program. The satisfaction variable is treated both as an independent variable in the regressions for Research Questions 2 through 5, and as the dependent variable in the regression for Research Question 1.

The dependent variables represented the outcomes of the program. Each dependent variable was a single item and was self-reported by the respondent. The independent variables predicted five dependent variables that included satisfaction with program, improved English proficiency, improved cross cultural awareness, improved research skills, and interest in completing an advanced degree. As previously stated, the satisfaction variable is treated as the dependent variable in the linear regression for Research Question 1, and also as the independent variables in the linear regression for Research Questions 2 through 5. Each of these dependent variables were measured on a self-report Likert scale from 1 to 7 (1=strongly disagree, 2=disagree, 3=somewhat disagree, 4 = neutral, 5=somewhat agree, 6=agree, and 7=strongly agree).

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 24.0 software was used to analyze the data for this study. SPSS was used to calculate Guttman's Lambda-2, descriptive statistics, and run bivariate analyses and linear regressions.

Once data collection was complete, the data from the online survey was converted to Microsoft Excel and then uploaded into SPSS. The variables were coded into categories (Wiersma, 1991). A codebook was developed to indicate each variable and the values assigned (Twombly, 2015). Table 2 depicts the variables and coding used to analyze the data. Part one includes the independent variables, and part two consists of the dependent variables.

Table 2

Survey independent and dependent variables

Question	Variable Name	Definition
Part 1. Independent Variables		
Q1 Semester Arrived	Program start	Summer 2012-1 Fall 2012-2 Spring 2013-3 Summer 2013-4 Fall 2013-5 Spring 2014-6 Summer 2014-7 Fall 2014-8 Spring 2015-9 Summer 2015-10 Fall 2015-11
Q1a Number of Semesters	Program length	1 semester –1 2 semesters –2 3 semesters –3 4 semesters –4
Q2 Grades	Grades	Mostly As-4 Mostly Bs-3 Mostly Cs-2 Mostly Ds-1 Mostly Fs-0

Q4 Orientation participation	Orientation participation	Yes – 1 No – 2
Q6 AEC participation	AEC participation	Yes – 1 No – 2
Q12 Academic training participation	Academic training participation	Yes – 1 No – 2
Q3, Q16, Q17, Q18	Academic Engagement	Strongly agree – 7 Agree – 6 Somewhat agree – 5 Neutral – 4 Somewhat disagree – 3 Disagree – 2 Strong disagree – 1
Q11, Q13, Q15	Social Engagement	Strongly agree – 7 Agree – 6 Somewhat agree – 5 Neutral – 4 Somewhat disagree – 3 Disagree – 2 Strong disagree – 1
Q10 Participate in social and cultural extracurricular activities	Social Engagement composite variable	Frequently – 5 Often – 4 Sometimes – 3 Rarely – 2 Never – 1
Q8, Q9, Q22, Q23	Satisfaction	Strongly agree – 7 Agree – 6 Somewhat agree – 5 Neutral – 4 Somewhat disagree – 3 Disagree – 2 Strong disagree – 1
Q24 Gender	Gender	Female—1 Male –0
Q25 Field of study	Field of Study	Engineering-1 Social Sciences-2 (recoded to 0) Pharmacy-3 (recoded to 0) Architecture- 4 (recoded to 0) Sciences-5 (recoded to 0) Other-6 (recoded to 0)

Part 2. Dependent Variables		
Question	Variable Name	Definition
Q20 Plan to pursue master's or PhD	Interest in advanced degree	Strongly agree – 7 Agree – 6 Somewhat agree – 5 Neutral – 4 Somewhat disagree – 3 Disagree – 2 Strong disagree – 1
Q21a English proficiency	English Proficiency	
21b Awareness of cultural differences	Cross cultural awareness	
21c Research skills or knowledge of field	Research skills and knowledge of field	
Q8, Q9, Q22, Q23	Satisfaction	Strongly agree – 7 Agree – 6 Somewhat agree – 5 Neutral – 4 Somewhat disagree – 3 Disagree – 2 Strong disagree – 1

As part of the initial analysis, the composite variables, academic engagement, social engagement, and satisfaction were computed.

Academic engagement was a composite variable made up of the following 4 items.

- Question 3: I put a lot of effort into my classes and the time I spent at KU.
- Question 16: My courses at KU were intellectually stimulating.
- Question 17: My interactions with KU professors and staff positively influenced my future goals.
- Question 18: KU professors and staff members I have had contact with are genuinely interested in helping students.

On a Likert-scale with 1 indicating strongly disagree and 7 indicating strongly agree, the mean for academic engagement was 6.23. This mean score indicates that the sample in general agreed

or strongly agreed that they were academically engaged by putting forth effort in classes, interacting with faculty and staff, also that their classes were intellectually stimulating and that they had faculty and staff who were interested in supporting them. For the academic engagement composite variable, there were no missing items.

The second composite variable, social engagement, was made up of the following 4 items.

- Question 10: How often did you participate in social and cultural extracurricular activities at KU? Examples include sporting or cultural events or joining student clubs.
- Question 11: The extracurricular activities made me feel welcome and were helpful to me while I was studying at KU.
- Question 13: While at KU, I developed close personal friendships with students from other countries (including the United States).
- Question 15: I felt like I belonged at KU.

The scale for questions 11, 13 and 15, three of the variables that made up the social engagement composite variable was also a Likert-scale with 1 indicating strongly disagree and 7 indicating strongly agree. The fourth variable that was used in social engagement was question 10. Question 10 was on a slightly different scale, which was 5-point (Frequently – 5; Often – 4, Sometimes – 3; Rarely – 2; Never – 1) instead of the 7-point Likert scale used for the other questions. The individual questions first needed to be standardized and converted to z-scores so that they were on the same scale with a mean of zero. By converting the four questions to z-scores, it standardized the questions so that they could be run together. The mean for social engagement was 6.02, which points to participants agreeing that they were socially engaged

through their participation in KU activities and their engagement and interaction with other KU students. There were no missing items for the social engagement composite variable.

The final composite variable was satisfaction, which was made up of the following 4 questions.

- Question 8: The Jayhawk Semester Program staff provided me with helpful information.
- Question 9: I received the kind of academic support from the Jayhawk Semester Program that I expected.
- Question 22: The support and help from the Jayhawk Semester Program met my expectations.
- Question 23: Attending KU as part of the Jayhawk Semester Program was a good decision for me.

Like both academic engagement and social engagement, the scale was a Likert-scale of 1 as strongly disagree and 7 as strongly agree. The mean for satisfaction was 6.67. The study sample agreed or strongly agreed that they were satisfied with their experience on the Jayhawk Semester Program. There were no missing items for satisfaction.

The additional independent variables were gender, grades, program start date, program length, field of study, participation in orientation, satisfaction with orientation and participation in the Applied English Center. Gender was coded as 0 for males and 1 for females. The choices for grades was mostly As, mostly Bs, mostly Cs, mostly Ds, and mostly Fs and were coded as 4 for mostly As to 0 for mostly Fs. For program start, summer 2012 was coded as 1, fall 2012 was 2, spring 2013 was 3, summer 2013 was 4, fall 2013 was 5, spring 2014 was 6, summer 2014 was 7, fall 2014 was 8, spring 2015 was 9, summer 2015 was 10, and fall 2015 was coded as 11.

Program length had 4 options, 1 semester was coded as 1, 2 semesters –2, 3 semesters –3 and 4 semesters –4. In field of study, Engineering was coded as 1, Social Sciences was 2, pharmacy was 3, architecture was 4, sciences was 5, and other was 6. For participation in both orientation and the Applied English Center, yes was coded as 1 and no was coded as 2.

Dependent Variables

The composite variable of satisfaction acted as both an independent and dependent variable. As previously indicated, the following 4 questions comprised satisfaction.

- Question 8: The Jayhawk Semester Program staff provided me with helpful information.
- Question 9: I received the kind of academic support from the Jayhawk Semester Program that I expected.
- Question 22: The support and help from the Jayhawk Semester Program met my expectations.
- Question 23: Attending KU as part of the Jayhawk Semester Program was a good decision for me.

The scale was a Likert-scale of 1 as strongly disagree and 7 as strongly agree. The mean for satisfaction was 6.67. The study sample agreed or strongly agreed that they were satisfied with their experience on the Jayhawk Semester Program. No items were excluded from the composite variable.

As stated above, aside from the satisfaction dependent variable, each dependent variable was a single item and was self-reported. The survey asked a single question for each of the 4 dependent variables in which students self-reported their response. The other dependent variables were improved English proficiency, improved cross cultural awareness, improved

research skills, and interest in completing an advanced degree. Each of these dependent variables were measured on a self-report Likert scale from 1 to 7 (1=strongly disagree, 2=disagree, 3=somewhat disagree, 4 = neutral, 5=somewhat agree, 6=agree, and 7=strongly agree).

Next, the Guttman's Lambda-2 tests of the composite variables were analyzed to determine that the variables were reliable. Table 3 provides the Guttman's Lambda-2 tests for the three composite variables. While running the Guttman's Lambda-2 tests of the composite variables, it was determined that for the Satisfaction variable, some items did not relate to Jayhawk Semester, and were out of the program's control. These questions were Question 14 (I was happy with my living/residence arrangement at KU.) and Question 19 (I am satisfied with my academic experience at KU.). Furthermore, because question 5 (Orientation provided me with helpful information about KU.) was optional based on the survey's skip logic, it was removed as an item from the Satisfaction composite variable. Also as discussed above, in order to run Guttman's Lambda-2 test for the social engagement variable, the four individual questions that comprised social engagement were first standardized and converted to z-scores. This meant they were on the same scale with a mean of zero and it standardized the questions so that they could be run together.

Table 3

Guttman's Lambda-2 test

Variable	Guttman's Lambda 2	N of Items
Academic Engagement	.725	4
Social Engagement	.699	4
Satisfaction	.736	4

Then the descriptive statistics were analyzed. In order to determine which independent variables were predictors on program satisfaction, improved English proficiency, improved cross cultural awareness, improved research skills, and interest in completing an advanced degree, bivariate analyses and linear regressions were conducted. Below is a table that depicts the research question and how the data were analyzed.

Table 4

Summary of Data Analyses

Research Question	Data Analysis
1. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict program satisfaction?	Descriptive statistics: Distribution of frequency, percentage, mean, standard deviation
2. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict interest in pursuing an advanced degree?	Reliability test: Guttman's Lambda-2 Model 1: Linear regression on all participants
3. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict English language proficiency?	
4. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict cross cultural awareness?	
5. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict improved research skills and/or knowledge of academic field?	

Limitations

This study had some limitations. The information in the surveys administered required students to self-report and as with any self-reported data, respondents may not provide completely accurate information. The survey was not sent to students immediately following program completion so the gap in time between the program completion and taking the survey could influence responses as well. The sample size of 114 was not a large one, and thus, may not be generalizable to larger groups of non-degree visiting international students studying in the United States. Furthermore, the study sample comprised students from a single country, Brazil, so the results may not be as generalizable if the sample had been from a more diverse group of countries.

Additionally, it should be noted that the students who participated in BSMP went through an application process prior to being selected by the Brazilian government. Therefore, these students applied, were vetted, and accepted into a program before coming to KU. These students may be more inclined to do well academically, or be more interested in enhancing their English and learning about U.S. culture than visiting international students who come to the University of Kansas on their own. The fact that these students went through a selection process may influence the generalizability of the results.

Finally, another limitation is that there is not a control group, and the study did not conduct a pre-test. Because of this, we are unable to separate out what outcomes are directly related to student participation in the Jayhawk Semester Program and what may be related to studying in another country (separate from the program in which these students participated in). If the study were to have added a control group, we would have a better understanding of the unique impact of the Jayhawk Semester Program on the outcomes.

Conclusion

This chapter provided the research methodology regarding the outcomes of the experience at KU on the BSMP students through a program evaluation of the Jayhawk Semester Program. In this study, the Institutional Integration Scale developed by Pascarella and Terenzini (1980) was used in constructing the research and survey questions. An outcomes assessment provided direction in order to identify learning outcomes. To measure the learning outcomes, an online survey was administered to 181 BSMP students who studied at KU on Jayhawk Semester Program between fall 2012 and spring 2016. The five dependent variables were the outcomes of the program. They were: satisfaction with program, improved English proficiency, improved cross cultural awareness, improved research skills, and interest in completing an advanced degree. There were ten independent variables that were background or program related, and they included gender, grades, field of study, program start, program length, participation in orientation, participation in the Applied English Center, academic engagement, social engagement, and satisfaction with the program. Academic engagement, social engagement, and satisfaction were composite variables. A series of linear regressions were conducted to explore the research questions. The next chapter presents the results from the descriptive statistics, bivariate analyses and linear regressions.

Chapter 4

Results

In this chapter, I present the results of the analyses conducted to determine how former students in the Brazil Scientific Mobility Program at the University of Kansas experienced the non-degree visiting international student program, called Jayhawk Semester. First, I report descriptive statistics of the study sample to investigate the characteristics of the Brazil Scientific Mobility Program participants who studied at the University of Kansas between fall 2012 and spring 2016. The descriptive statistics include individual variables, including gender, field of study, program start, program length, participation in orientation, participation in the Applied English Center, and self-reported grades. I also report the descriptive statistics on the independent composite variables: academic engagement, social engagement and satisfaction, and on the dependent variables: English proficiency, cross cultural skills, research skills, interest in advanced degree, and satisfaction. Next, I describe the bivariate and multivariate statistical analyses conducted on the demographic variables of gender, field of study, and grades, as well as on the variables of program start and program length. I also report any statistically significant differences or correlational relationships found between groups for each of the variables. Finally, I show the results from a series of linear regression analyses on the factors that predicted students' English language proficiency, cross cultural awareness and research skills, interest in pursuing a graduate degree, and satisfaction with the program. All statistically significant differences are reported using an alpha level of $p < .05$.

Description of the Sample and Key Variables

Table 5 describes the demographic variables of the study sample, the Brazil Scientific Mobility Program (BSMP) students who participated in the Jayhawk Semester Program at the University of Kansas between 2012 and 2016 (N=114). Males outnumbered females at 62% to 37% of the sample, respectively. The largest field of study was engineering, with 63% of the sample studying an engineering major. The first cohort of BSMP students attended KU starting in summer 2012; the final cohort began the program in fall 2015. The cohort that had the largest participation in the study (33%) began the program at KU in fall 2014. Forty-six percent of the sample studied at KU for 3 semesters (summer, fall, spring, for example), and 36% of the sample studied for 4 semesters at KU, which would include summer, fall, spring, and the following summer. There were 98 students from the sample who participated in orientation for new international students, and 75% agreed or strongly agreed that orientation provided them with helpful information and resources. Additionally, 85% of the sample enrolled in courses in the KU Applied English Center, which provides ESL and academic English preparation for non-native English speakers. Half (50%) of the study sample reported that they earned grades (in academic classes) of mostly A's, while just 12% of the sample stated they had received mostly Cs or below.

Table 5

Descriptive Statistics of the Study Sample (N=114)

		Percentage (%)	Frequency (N)
Gender	Female	37.4%	43
	Male	61.7%	71
Field of Study	Engineering	62.6%	72
	Architecture/Urban Design	15.7%	18
	Sciences	11.3%	13
	Pharmacy	5.2%	6
	Other	3.5%	4
	Social Sciences	0.9%	1
Program Start	Summer 2012	1.7%	2
	Fall 2012	1.7%	2
	Spring 2013	2.6%	3
	Summer 2013	6.1%	7
	Fall 2013	17.4%	20
	Spring 2014	11.3%	13
	Summer 2014	5.2%	6
	Fall 2014	33%	38
	Spring 2015	0.9%	1
	Summer 2015	13%	15
	Fall 2015	6.1%	7
Program Length	1 semester	1.7%	2
	2 semesters	16.5%	19
	3 semesters	46.1%	53
	4 semesters	35.7%	41
Orientation	Yes	86%	98
	No	14%	16
Orientation was helpful	Strongly agree	52.6%	60
	Agree	22.8%	26
	Somewhat agree	8.8%	10
	Neutral	0.9%	1
	Somewhat disagree	0%	0
	Disagree	0%	0
	Strongly disagree	0.9%	1
AEC	Yes	85.1%	97
	No	14.9%	17
Grades	Mostly Fs	0.9%	1
	Mostly Ds	2.6%	3
	Mostly Cs	8.7%	10
	Mostly Bs	36.5%	42
	Mostly As	50.4%	58

Table 6 shows the descriptive statistics for the independent variables: academic engagement, social engagement, and satisfaction. Academic engagement is a composite variable that measures whether students put a lot of effort into their classes and the time they spent at KU, their KU courses were intellectually stimulating, their interactions with KU professors and staff positively influenced their future goals, and that KU professors and staff members were genuinely interested in helping students.

On a Likert-scale with 1 indicating strongly disagree and 7 indicating strongly agree, the mean for academic engagement was 6.23 ($n = 114$, $SD = 0.66$). The majority of students agreed that they were academically engaged during the Jayhawk Semester Program.

The mean for social engagement was 6.02 ($n = 114$, $SD = 0.78$). In other words, the sample also somewhat agreed to agreed that they were socially engaged while in the program. The standard deviation for social engagement was 0.78, which is the greatest range of distribution among the three independent variables. Students who somewhat agreed to strongly agreed that they were socially engaged, felt the extracurricular activities made them feel welcome and were helpful while they studied at KU, they developed close personal friendships with students from other countries (including the United States) while at KU, and that they felt like they belonged at KU.

Finally, the mean for satisfaction with the program overall was 6.67 ($n = 114$, $SD = .44$), which indicates the sample agreed to strongly agreed that the Jayhawk Semester Program staff provided them with helpful information, they received the kind of academic support from the Jayhawk Semester Program that they expected, that the support and help from the Jayhawk Semester Program met their expectations and that attending KU as part of the Jayhawk Semester Program was a good decision.

Table 6

Descriptive Statistics of Independent Composite Variables

Independent Variable	Mean	SD
Academic Engagement	6.23	.66
Social Engagement	6.02	.78
Satisfaction	6.67	.44

Table 7 depicts the means and standard deviations for the five dependent variables in the study. For self-assessed growth in English proficiency, the mean was 6.89 ($n = 114$, $SD = 0.32$). This signifies the sample agreed to strongly agreed that they improved their English language skills (reading, writing, listening and speaking) while they were at KU on the Jayhawk Semester Program. The mean for self-assessed growth in awareness of cultural differences was 6.81 ($n = 114$, $SD = 0.42$), which indicates that the participants agreed to strongly agreed their cultural awareness increased through their Jayhawk Semester experience. As for research skills, the mean was a 6.29 ($n = 114$, $SD = 0.86$), demonstrating the sample felt they had also improved research skills through their academic training experience as part of Jayhawk Semester. Finally, for the variable interest in pursuing an advanced degree, the mean score was 6.06 ($n = 114$, $SD = 1.31$). On average, the sample agreed that they were considering enrolling in a graduate program in part because of their time on the Jayhawk Semester Program. The standard deviation for interest in advanced degree was 1.31, which was the largest distribution of scores among the dependent variables indicating that for some of the sample, they may somewhat agree or be neutral on whether they were interested in pursuing an advanced degree following their Jayhawk Semester experience. For the other dependent variables, the standard deviations indicate that the sample generally agreed they were satisfied, their English proficiency, and cross cultural skills had improved while on the program.

Table 7

Descriptive Statistics of Dependent Variables

Dependent Variable	Mean	SD
Satisfaction	6.67	.44
English Proficiency	6.89	.32
Cross Cultural Skills	6.81	.42
Research Skills	6.29	.86
Interest in advanced degree	6.06	1.31

Differences between Groups on the Dependent Variables

I used a variety of statistical tests to identify differences on the five dependent variables (program satisfaction, research skills, cultural awareness, English proficiency, or desire to pursue an advanced degree) between groups of students based on gender, fields of study, program start/arrival, program length, and grades. For gender and fields of study, independent samples t-tests were used to identify group differences. For program length and grades, the bivariate Pearson correlation was used to measure relationships between the dependent and independent variables. Finally, for the program start (also the semester the students arrived to KU), a one-way multivariate analysis of variance (ANOVA) was used to analyze the differences among the groups beginning the program in different years and semesters.

Table 8 displays the results of an independent t-test for gender. There was no statistically significant difference between men and women in the sample on their satisfaction with the program, their self-assessed research skills, cultural awareness, level of English proficiency, or desire to pursue an advanced degree. Though not significant, the mean for women was higher than the men for each of these items except for research skills, where men rated themselves slightly higher.

Table 8

Independent samples t-test for Gender (n = 110)

	Gender	Mean	SD	t-value	Sig. (2-tailed)
English proficiency	Male	6.86	0.35	12.34	.25
	Female	6.93	0.25		.217
Advanced degree	Male	5.97	1.33	56.78	.351
	Female	6.21	1.28		.347
Cultural awareness	Male	6.76	0.46	12.34	.128
	Female	6.88	0.32		.098
Research skills	Male	6.34	0.81	56.78	.441
	Female	6.21	0.94		.458
Satisfaction	Male	6.67	0.42	12.34	.951
	Female	6.67	.48		.952

Note. ***p < 0.001, **p < 0.01, *p < 0.05.

For fields of study, the survey had seven choices: engineering, architecture/urban design, sciences, social sciences, pharmacy and other. The sample size for some of the fields was too small to make a judgment on significance. For example, the sample size for students studying social sciences was 1 and for pharmacy the sample was 6. Therefore, I created a dichotomous variable where if the field of study was equal to engineering, the value was recoded to 1. For all other fields, the value was recoded to 0. Then, I used a t-test to check for statistically significant differences between students studying engineering and students studying in another field: architecture/urban design, sciences, pharmacy, social sciences, or other. The results indicate there was a statistically significant difference between the students who studied engineering and the group who studied in other fields on their level of English proficiency ($p=.050$). Therefore, for those students whose field of study was something other than engineering, specifically architecture/urban design, sciences, pharmacy, social sciences, or other, indicated their English proficiency did not improve as much as those studying engineering. For the other variables, there were no statistically significant differences.

Table 9

Independent samples t-test for Field of Study (n = 110)

	Field of Study	Mean	SD	Sig (2-tailed)
Advanced degree	Other	6.24	1.39	0.27
	Engineering	5.96	1.26	0.28
English proficiency	Other	6.81	0.39	0.05*
	Engineering	6.93	0.25	0.08
Cultural awareness	Other	6.81	0.39	0.96
	Engineering	6.81	0.43	0.96
Research skills	Other	6.38	0.85	0.38
	Engineering	6.24	0.86	0.38
Satisfaction	Other	6.68	0.44	0.89
	Engineering	6.67	.45	0.89

Note. ***p < 0.001, **p < 0.01, *p < 0.05.

A Pearson correlation was run for the program length variable. Table 10 shows that there was no statistically significant relationship between length of time in the program at KU and interest in pursuing an advanced degree ($r = -.045$), improved English proficiency ($r = .111$), self-assessed cultural awareness ($r = .153$), self-assessed research skills ($r = .011$) or satisfaction ($r = -.054$) with program.

Table 10

Pearson correlation coefficient for Program Length

	Program Length	Advanced degree	English proficiency	Cultural Awareness	Research skills	Satisfaction
Pearson Correlation	1	-0.045	0.111	0.153	0.011	-0.054
p-value		0.632	0.238	0.105	0.91	0.57
N	114	114	114	114	114	114

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation coefficient was also conducted for self-reported grades and the key dependent variables. Table 11 indicates that there was a statistically significant relationship between self-reported grades and interest in pursuing an advance degree between groups ($r = .260, n = 113, p < .005$). The higher the grades, the more likely the student was to indicate that he/she planned on pursuing an advanced degree. Additionally, based on student reported grades, there was a statistically significant positive relationship between grades and increase in cultural awareness ($r = .192, n = 113, p = .042$) and a significant positive relationship between grades and research skills ($r = .294, n = 113, p = .002$). For these two variables, the relationship was positive indicating that an increase in grade was related to an increase in self-assessment of cultural awareness and research skills. Grades were not correlated significantly with any of the other independent variables (i.e., English proficiency or program satisfaction).

Table 11

<i>Pearson correlation coefficient for Grades (n = 110)</i>						
	Grades	Advanced degree	English proficiency	Cultural Awareness	Research skills	Satisfaction
Pearson Correlation		.260**	-0.021	.192*	.294**	0.13
p-value		0.005	0.822	0.042	0.002	0.169
N	113	113	113	113	113	113

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The independent variable program start (semester students arrived to KU) had multiple start dates spanning 4 years and fall, spring and summer semesters, therefore, the multivariate analysis of variance (ANOVA) was used to analyze the differences among the groups who began the program in different years and semesters. In running the ANOVA, there was found to be no statistically significant difference in interest in pursuing an advanced degree, improved English

proficiency, self-assessed cultural awareness, self-assessed research skills or satisfaction with the program and when people participated in the program.

Table 12

ANOVA results for program start (n = 110)

	Sum of Squares	df	Mean Square	F-statistic	Sig. (p-value)
Advanced degree	26.016	10	2.602	1.585	0.122
English proficiency	1.548	10	0.155	1.586	0.121
Cultural awareness	2.059	10	0.206	1.19	0.307
Research skills	6.598	10	0.66	0.882	0.553
Satisfaction	15.685	10	1.568	1.649	0.103

Predictors of Outcomes for Jayhawk Semester Program Participants

This section presents the results of linear regression analyses to examine the outcomes of Jayhawk Semester Program participation on Brazil Scientific Mobility Program participants.

These analyses were conducted in response to the following research questions:

1. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict program satisfaction?
2. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict interest in pursuing an advanced degree?
3. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict English language proficiency?
4. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict cross cultural awareness?

5. Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict improved research skills and/or knowledge of academic field?

Based upon the results of the second stage of analysis, which included the t-test, correlation and ANOVA analyses, independent variables were selected for inclusion in a linear regression model. The variables selected were grades, field of study, gender, program length, academic engagement, social engagement, and program satisfaction. There was a variation of variables used in the linear regression for the dependent variable of satisfaction; program satisfaction was removed, as it is comprised of the same survey questions as the composite independent variable satisfaction.

Predicting satisfaction of the program. Table 13 presents the goodness of fit measures and the results of the linear regression analysis in the model that responded to research question 1: Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict program satisfaction? The model explained a significant proportion of variance in participants' program satisfaction with an estimation of $R^2 = .184$, $F(6, 112) = 3.986$, $p < .01$. This points to 18% of the total variation in interest in satisfaction can be explained by the independent variables, gender, program length, grades, field of study, and social and academic engagement. Academic engagement ($\beta = .419$, $p < .001$) was the only predictor significantly related to program satisfaction. This indicates that students who were academically engaged (i.e., they put a lot of effort into classes, believed courses were intellectually stimulating, that their interactions with professors and staff positively influenced future goals, and that professors and staff are genuinely interested in helping students) were more

likely to be satisfied with the overall program. The other variables in the equation were not significant predictors of program satisfaction.

Table 13

*Results of linear regression: Factors predicting program satisfaction
(n = 110)*

	Weight (β)	Weight (b)
Program Length	-.043	-28.248
Grades	-.072	-43.549
Academic Engagement	.419***	206.039***
Social Engagement	-.119	-58.360
Gender	-.027	-27.267
Field of Study	-.024	-24.962
R square	.184	
Standard error	458.098	
F-statistic	3.986 **	
Df	6	
N	112	

Note. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Predicting the desire to pursue an advanced degree. Table 14 presents the goodness of fit measures and the results of the linear regression analysis in the model that responded to research question 2: Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict interest in pursuing an advanced degree? The model explained a significant proportion of variance in participants' interest in pursuing an advanced degree with an estimation of $R^2 = .163$, $F(7, 112) = 2.915$, $p < .01$. Therefore, 16% of the total variation in interest in pursuing an advanced degree can be explained by the independent variables. Academic engagement ($\beta = .295$, $p < .05$) was the only predictor significantly related to the interest in pursuing an advanced degree. The other variables in the equation were not significant contributors to interest in pursuing an advanced degree.

Table 14

Results of linear regression: Factors influencing interest in pursuing an advanced degree (n = 110)

	Weight (β)	Weight (b)
Program Length	-.019	-.033
Grades	.159	.255
Academic Engagement	.295 **	.386**
Social Engagement	.133	.174
Satisfaction	-.133	-.175
Gender	.055	.148
Field of Study	-.098	-.266
R square	.163	
Standard error	1.24	
F-statistic	2.915 **	
Df	7	
N	112	

Note. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Predicting improvement in English Proficiency. Table 15 presents the goodness of fit measures and the results of the linear regression analysis in the model that responded to research question 3: Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict English language proficiency? The model explained a significant proportion of variance in participants' English language proficiency with an estimation of $R^2 = .165$, $F(7, 112) = 2.971$, $p < .01$. Therefore, 16% of the total variation in English language proficiency can be explained by gender, grades, program length, field of study, program satisfaction and social and academic engagement.

Social engagement ($\beta = -.230$, $p < .05$) was a significant, but negative, predictor related to improved English language proficiency was social engagement. Students who were more socially active were less likely to assess their English language skills improved during the program. Field of study ($\beta = .219$, $p < .05$) was also a predictor significantly related to increased English language proficiency indicating that students in engineering were more likely than those

in other fields to feel their English proficiency was improved as a result of the program. The other variables in the equation were not significant contributors to the dependent variable.

Table 15

Results of linear regression: Factors influencing improved English language proficiency (n = 110)

	Weight (β)	Weight (b)
Program Length	.090	.038
Grades	-.066	-.026
Academic Engagement	-.033	-.010
Social Engagement	-.230*	-.073*
Satisfaction	.166	.053
Gender	.155	.102
Field of Study	.219*	.145*
R square	.165	
Standard error	.302	
F-statistic	2.971 **	
Df	7	
N	112	

Note. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Predicting an increase in awareness of cultural differences. Table 16 presents the goodness of fit measures and the results of the linear regression analysis in the model that responded to research question 4: Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict cross cultural awareness? The model explained a significant proportion of variance in participants' cross cultural awareness with an estimation of $R^2 = .171$, $F(7, 112) = 3.087$, $p < .01$. Therefore, 17% of the total variation in cross cultural awareness can be explained by the variables gender, program length, grades, field of study, program satisfaction, and social and academic engagement. The two predictors that were significantly related to cross cultural awareness were grades ($\beta = .205$, $p < .05$) and social engagement ($\beta = -.231$, $p < .05$). Students who reported higher grades were more likely to report that their cross cultural awareness was enhanced during

the program. Students who were more socially engaged reported a negative significant relationship, therefore, those who reported they participated more often in social activities indicated they felt less of an increase in cross cultural awareness.

Table 16

Results of linear regression: Factors influencing increased cross cultural awareness (n = 110)

	Weight (β)	Weight (b)
Program Length	.158	.087
Grades	.205*	.105*
Academic Engagement	-.070	-.029
Social Engagement	-.231*	-.096*
Satisfaction	.184	.077
Gender	.107	.092
Field of Study	-.030	-.026
R square	.171	
Standard error	.395	
F-statistic	3.087 **	
Df	7	
N	112	

Note. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Predicting an improvement of research skills. Table 17 presents the goodness of fit measures and the results of the linear regression analysis in the model that responded to research question 5: Controlling for background variables how does the participant's effort, the program support, and social and academic engagement predict improved research skills and/or knowledge of academic field? The model explained a significant proportion of variance in participants' improved research skills and/or knowledge of academic field with an estimation of $R^2 = .252$, $F(7, 112) = 5.051$, $p < .001$. Therefore, 25% of the total variation in improved research skills and/or knowledge of academic field can be explained the variables. Academic engagement ($\beta = .336$, $p < .01$) was the only predictor significantly related to improved research skills and/or knowledge of academic field, indicating that the more academically engaged a participant was,

the more they believed their research skills and understanding of field of study was enhanced. The other variables in the equation were not significant contributors to interest in pursuing an advanced degree.

Table 17

Results of linear regression: Factors influencing improved research skills and/or knowledge of academic field (n = 110)

	Weight (β)	Weight (b)
Program Length	.036	.041
Grades	.146	.153
Academic Engagement	.336**	.288**
Social Engagement	-.076	-.065
Satisfaction	.095	.081
Gender	-.175	-.310
Field of Study	-.158	-.281
R square	.252	
Standard error	.769	
F-statistic	5.051 ***	
Df	7	
N	112	

Note. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Conclusion

This chapter discussed the results from data analyses. The descriptive analyses revealed that the study sample, the Brazil Scientific Mobility Program non-degree undergraduates who studied at the University of Kansas between fall 2012 and spring 2016, had more men participate than women, and that a majority of students were in the field of engineering. Almost half of the sample studied at KU for 3 semesters, fall, spring and summer, and the largest cohort was the group that started in fall 2014. Additionally, most of the sample participated in some form of orientation to the university, and most students in the sample studied English in the Applied English Center. Overall, the sample felt that they were socially engaged while on the program, and that they were academically engaged as well. The sample overall felt supported while at

KU, and were satisfied with the program. Also, the majority of the sample felt their English proficiency, awareness of cultural differences and research skills or knowledge of their field of study were enhanced through their experience. Finally, although some were neutral, most of the sample indicated that they were considering enrolling in a graduate program in part because of their time on the Jayhawk Semester Program.

Analyzing the variables that influenced the BSMP student outcomes on the Jayhawk Semester Program showed that there was no statistically significant difference between men and women in the sample on satisfaction with the program, self-assessed research skills, cultural awareness, level of English proficiency, or desire to pursue an advanced degree. Despite this, women rated themselves higher than men in program satisfaction, improved cultural awareness, English proficiency and desire to pursue an advanced degree. The only variable in which men assessed themselves higher was in improved research skills and/or understand on their field of study. Students in the sample who were Engineering majors believed their English improved more than students in other majors. Grades were self-reported, however, the higher the students reported their grades, the more likely the student was to indicate that he/she planned on pursuing an advanced degree, and the greater increase in both cultural awareness and research skills/understanding of their field of study.

While all of the regression models in this study were statistically significant, the predictors varied and thus failed to control for a large portion of the variance. The strongest and most consistent predictors across all models and groups were academic engagement and social engagement. Academic engagement was significantly related to three variables: program satisfaction, interest in pursuing an advanced degree, and improved research skills and/or knowledge of academic field. Students who put a lot of effort into classes, thought courses were

intellectually stimulating, that interactions with professors were positive and that professors and staff were genuinely interested in helping students were more likely to be satisfied with the overall program, were interested in going to graduate school, and believed their research skills and understanding of field of study had improved.

Social engagement was significantly, but negatively related to English language improvement and increase in cross cultural awareness. Therefore, the students who were more socially engaged felt less of an increase in cross cultural awareness and less likely that their English language skills improved during the program. In the next chapter, I discuss these findings and their implications for policy and future research.

Chapter 5

Conclusions

In this chapter, I discuss the results of the research conducted and its implications for policy and future research. First, I interpret the findings from the data analyses that were relevant to the research questions. Additionally, I discuss what the results mean and recommendations for the future of the Jayhawk Semester Program and similar programs. Finally, I provide potential new research questions that have arisen from this study.

This study investigated the following research questions:

1. Controlling for background variables how the participant's effort, the program support, and social and academic engagement predicts program satisfaction?
2. Controlling for background variables how the participant's effort, the program support, and social and academic engagement predicts interest in pursuing an advanced degree?
3. Controlling for background variables how the participant's effort, the program support, and social and academic engagement predicts English language proficiency?
4. Controlling for background variables how the participant's effort, the program support, and social and academic engagement predicts cross cultural awareness?
5. Controlling for background variables how the participant's effort, the program support, and social and academic engagement predicts improved research skills and/or knowledge of academic field?

The overall objectives of the Jayhawk Semester Program are to offer an academic and cultural non-degree program to visiting international undergraduate students, increase participation rates, streamline processes and offer substantial support to both students and the organizations that partner with KU. The conclusions of this study will guide the future of the

program and provide a basis for the continuation and modification of the current services the program offers.

By analyzing data from Brazil Scientific Mobility Program (BSMP) participants who studied at the University of Kansas on the Jayhawk Semester Program between fall 2012 and spring 2016, this study found that students reported that they were satisfied with their program experience, and that academic engagement influenced satisfaction with the program, interest in pursuing an advanced degree, and improved research skills and/or knowledge of academic field.

Participants Liked the Program

The BSMP participants on Jayhawk Semester overwhelmingly believed they had a good experience and that they were supported during their program. Approximately 95% of the study sample agreed that attending KU as part of Jayhawk Semester was a good decision.

Additionally, 94% of the sample agreed that the support and help they received from the Jayhawk Semester Program met their expectations. This is good to hear because it indicates that the program is successful, and that students are happy with their KU Jayhawk Semester experience.

Regarding student participation, 52% of the students participated often or frequently in extracurricular social and cultural activities. A further 70% of students participated in academic training (research or work) or an internship during the summer semester of their program. Additionally, 85% of the participants enrolled for at least a semester in the Applied English Center, and 86% attended international student orientation.

The majority of students indicated they were academically engaged. For example, 78% of the sample agreed or strongly agreed they put a lot of effort into their classes and the time they spent at KU. A total of 87% thought their courses were intellectually stimulating. Furthermore,

78% agreed or strongly agreed that their interactions with KU faculty and staff positively influenced future goals, and 88% felt that KU faculty and staff are genuinely interested in helping students. Ninety-four percent of the sample indicated they received the academic support that they expected from the Jayhawk Semester Program. The BSMP students felt connected to KU through academics.

In addition, the sample believed they were socially engaged at KU. The study showed that 82% of the sample agreed or strongly agreed that the extracurricular activities made them feel welcome and were helpful. Three-fourths (75%) of the sample also developed close friendships with other students. Overwhelmingly, the students (89%) indicated that they felt like they belonged at KU. These findings indicate that the BSMP program is doing what it set out to do and that participants appreciated the efforts undertaken by the institution. This speaks well for the program and its continued success.

Academic Engagement Matters

The study found that students who were academically engaged (i.e. those who put a lot of effort into classes, believed courses were intellectually stimulating, interactions with professors and staff positively influenced future goals, and that professors and staff are genuinely interested in helping students) were significantly more likely to be satisfied with the overall program. Academic engagement was also significantly related to interest in pursuing a masters or doctoral degree, and to improved research skills and/or understanding of academic field. As previous research has shown, students with high levels of academic engagement achieve more positive outcomes including retention, learning and other measures of academic success and the findings of this study only add support to that body of literature (Astin, 1993; Kuh, 2003). Additionally, it's important to note that the students with the highest academic engagement were also more

likely to want to further their education by going to graduate school. This could indicate that academically engaged students develop a deeper connection and interest in their major or classes. Therefore, they may have the desire to continue developing that interest through graduate school. Alternatively, it could mean that students who want to go to graduate school are more likely to be academically engaged as undergraduate students.

The regression findings indicated that self-reported grades were significantly related to cross cultural awareness. Therefore, higher self-reported letter grades indicated that students' believed they had grown in cross cultural awareness. Students who did well academically believed they also gained cross cultural awareness while on the program. This may mean that high achieving students were intentional or just more successful when trying to expand their awareness of the U.S., Brazil and other cultures. The regressions also showed that field of study influenced perceived improvement of English proficiency. Students in the field of engineering reported that their English proficiency increased as a result of participating on the Jayhawk Semester Program. This may indicate that engineering students either came in with lower levels of English, or they felt they focused more of their energy on improving their English than students in other fields of study.

Additionally, the regression findings indicated that students who were more socially engaged were less likely to assess that their English language skills improved. Similarly, the findings revealed that socially engaged students were less likely to believe they improved cross cultural awareness. The expected result for this finding was that students who were more socially engaged would report that they improved their language and cross cultural awareness more than students who felt they were less socially engaged. Although this is opposite of what was found and the findings did not provide an explanation for why, perhaps the higher their

social engagement, the more they believed their English was at a high level of proficiency prior to the start of the program, and/or they were already familiar with American culture or comfortable with cultural differences? Also, the questions that made up the social engagement variable included a participation question, a question about feeling welcome, and a question about belonging at KU. It could be that students may have been socially engaged, however, they didn't actually need or utilize English language skills, or focus on cross cultural skills. The students may have been socially engaged, but spent much of their time with other Brazilians, which would not likely facilitate increased English or cross cultural skills.

Contributions to Literature

The literature on social and academic engagement has traditionally studied domestic (United States citizen or permanent residents) students studying at institutions in United States. This study adds new contributions to the literature on engagement in that it provides evidence that international students in relatively short-term programs also benefit from social and academic engagement as well as student and faculty contact.

This study offers empirical evidence to the literature on international students by exploring non-degree international student satisfaction while on a short term program, specifically the influence of social and academic engagement, program support and participant's effort on program satisfaction, interest in pursuing an advanced degree, English proficiency, cross cultural awareness, and improved research skills or knowledge of academic field. The results of this study support and expand on current literature that academic engagement, particularly student and faculty contact and interactions, is crucial to student success, grades, and preparation for graduate school (Astin, 1993; Kuh, 2003).

Interestingly, in regards to literature on study abroad, although length of time abroad is often thought to be a significant factor in outcomes such as language proficiency, academic attainment, intercultural development, and career choices (Dwyer, 2004), this study indicated there was no significant relationship between length of time at KU and future degree attainment, improved language, or cross cultural awareness.

Implications for Policy

The findings in this study suggest several important policy implications for U.S. higher education institutions as well as for non-degree international students. I discuss the implications for KU specifically and higher education institutions in general.

Implications for the University of Kansas. There are a couple of practical implications for the University of Kansas that come from this study. I want to start by providing an update on the Jayhawk Semester Program and the Brazil Scientific Mobility Program. The Brazil Scientific Mobility Program was suspended in 2015, although they allowed for students already on the scholarship to complete the program. In 2016 due to political changes in Brazil as well as economic constraints, the program for undergraduate non-degree Brazilians to study in the United States and elsewhere was discontinued (Lu, 2015; Sa, 2016). Although KU (and institutions around the United States) no longer receive BSMP students, the Jayhawk Semester Program continues with students from around the world. Jayhawk Semester is currently in its 7th year and continues to provide the same support services and resources to non-degree international students. As indicated above, the descriptive results of the study support the idea that the Jayhawk Semester Program is meeting student expectations and that participants are satisfied with the experience. This indicates that the program staff are providing appropriate assistance to students. Aspects of the program such as orientation and extracurricular activities

were also rated positively, so we know these are strengths of the program and they continue to be offered.

Secondly, the study can help define new recruitment strategies for prospective students to KU. Now that we have data on the positive outcomes of the study, we can utilize that to further our recruitment of non-degree students specifically. In considering new models for recruitment of international students, KU could consider a couple of things. Now that we know the Jayhawk Semester Program is successful, we should identify ways to target students interested in non-degree opportunities rather than a full degree program. In communication with those students, KU should highlight the variables that were indicated as most positive by the program participants, such as the support of faculty, the social engagement opportunities, and opportunities for research.

Also, the study revealed that students who were more socially engaged felt less of an increase in cross cultural awareness and were less likely to indicate that their English language skills improved during the program. It is unclear why this occurred. To address this finding, the Jayhawk Semester program could be more intentional in its programming and housing options in the future. Starting in 2014, all BSMP students were housed together in one residence hall so while they may have been attending activities or feeling welcome on campus, this may have led them to spend most of their time with others from their own country. Perhaps students from the same country could be placed in residence halls across campus so that they could integrate better with students from the United States and from other countries. Additionally, when we know that we will be hosting large numbers of students from the same country, we could focus on integrating them into the campus better. For instance, they could participate in Global Partners, a

program that brings international and domestic students together for social, educational, and service activities; or they could be encouraged to join a campus organization that interests them.

Lastly, the data indicated that students gained quite a bit of knowledge through their research or internship experience. The program is exploring the possibility of expanding ways for students to connect with faculty during their time at KU. One option that the Jayhawk Semester Program should consider is to offer an unpaid research experience as a regular program component for their academic year students. In this component, the non-degree students can not only gain research experience, but work closely with faculty and graduate students, as well as learn about graduate programs, which may enhance the likelihood of them applying to a KU graduate program in the future. With guidance from the Jayhawk Semester coordinators, in the fall semester students could try to identify unpaid research opportunities with KU faculty for the spring semester or summer semester. The Jayhawk Semester Program coordinators could assist the students in finding faculty or researchers doing research in their area, forging relationships with academic departments who may be open to hosting these students for research opportunities, tailoring emails to professors and discussing program details with the faculty or research supervisors.

Policy Implications for Higher Education Institutions. This study found that academic engagement predicted higher overall satisfaction with program, increased interest in pursuing an advanced degree and improved research skills and knowledge of academic field. The results of this study support the involvement and engagement theories that state interaction between student and professor leads to a more engaged, and thus, a more academically successful student (Astin, 1993, Kuh, 2003). This points to the value of highlighting the academic engagement component of non-degree visiting international student programs. For

host universities, like KU, developing and identifying ways to increase academic engagement would be beneficial to the success of non-degree international programs and its students. One example may be facilitating the interactions with professors through informal events, like a welcome reception for the non-degree program that brings together the students and the faculty. A faculty mentoring program in which the non-degree program coordinator identifies faculty mentors for the non-degree students would be another opportunity for universities to facilitate interaction. Through encouraging the faculty and student interactions, students may be more willing to ask faculty questions, attend office hours, and understand that professors are interested and willing to assist them.

Faculty and administrators should be aware that although non-degree international students are a small population within the total international student and university population, they exist on many college campuses. Although they may receive special support from programs such as Jayhawk Semester, these students may not have the knowledge or resources to navigate a university or college in the United States since they may not go through orientation or have not attended school or college in the United States in the past. Faculty and administrators should be cognizant of how interactions with faculty and staff may affect the program outcomes and satisfaction of non-degree international students. Including them in departmental notifications, activities and events, would provide the students with a level of support and also indicate there is value in developing relationships with faculty and departments. Additionally, these non-degree students could be prospective graduate students, so the connections that faculty and departments build with these students may pave the way for future graduate applications. Programs like Jayhawk Semester could host special informational sessions with administrators from graduate

studies and/or graduate programs to share information with non-degree students about the admissions process, funding sources, graduate program fit, etc.

Furthermore, non-degree international students bring financial resources to university campuses. Through establishing non-degree programs and then finding ways to promote them among prospective international students, higher education institutions can find another source of revenue.

Future research

I see many new areas of research based on the results. One is to broaden the scope of the study to international non-degree students from countries other than Brazil, and to other universities. This type of study will provide further insight into diverse groups of students and their outcomes on non-degree programs in the United States. Alternatively, a similar study could be run that includes a control group of international students who participated in a typical study abroad program, and who did not have the same level of support as students on Jayhawk Semester or a formal non-degree program. Furthermore, students participating in Jayhawk Semester or a similar program, could be given a pre-test and post-test to see actual growth in English. Most of the students who study at KU's AEC do take a placement exam called the CaMLA upon their arrival, and then they take the TOEFL institutional based test (TOEFL ITP) at the conclusion of the semester. However, if the students could also take the TOEFL ITP, or take only the ITP, at the start of the semester, we would be able to compare the pre- and post-test results and have a better measure of improvement in English proficiency.

Non-degree study abroad programs appear to be a current trend in international higher education. At KU specifically, we are endeavoring to increase our short term program offerings by restructuring the current short term programs team and giving them the agency to develop

proposals for sponsors and partner universities, and to expand into academic schools and departments. Therefore, a qualitative study of institutions, and types of non-degree programs offered, the services provided, and the outcomes achieved would also add significant awareness of non-degree programs in the field of international education.

Other ideas for future research are to survey faculty who work with these non-degree international students to learn about their experience with the students. We know that these students gain a great deal from their faculty interactions, but it would be helpful to know if these relationships continue and in what way. Moreover, I wonder if they are conduits for future research collaborations with foreign faculty or departments, or even agreements of understanding with foreign universities.

Finally, cost is often a critical component for students studying in the United States, so a study looking at how international non-degree students are funding their programs, if universities are offering scholarships or cost share, and if changes in university financial support has impacted non-degree enrollment numbers would be incredibly beneficial.

Conclusion

Through a program evaluation of the non-degree Jayhawk Semester Program, this study examined the academic and social engagement, and outcomes of Brazilian international undergraduate students who came to the University of Kansas as part of the Brazil Scientific Mobility Program. The Brazil Scientific Mobility Program (BSMP) was one of the most ambitious and largest government funded programs we've seen in international education. It was meant to facilitate research, cross cultural exchange and internationalization of higher education institutions in Brazil. It was not without controversy and BSMP ultimately ended because it

exceeded its budget and the corruption surrounding President Dilma Rousseff, who implemented the program, made it unsustainable.

By focusing on non-degree international students from Brazil, and considering how social and academic engagement and other background variables affects program outcome measures such as English proficiency, research skills, cross cultural awareness, interest in graduate school, and overall program satisfaction, this dissertation identified patterns and trends of non-degree international students studying for a short term program at a university in the United States. These trends can prompt higher education researchers to continue to study non-degree international students. This study also lends support to what we already know about student engagement and can lead to new initiatives that short term programs can implement in order to better serve student participants.

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Appendix I

Recruitment Email

Hi First Name!

How are you doing? Have you finished your degree or are you working or in graduate school in Brazil? I would love to hear from you and how you are doing. It was so nice to get you know when you came to KU in year!

I'm writing to ask you a big favor. Will you complete a short survey about your time at the University of Kansas? I'm sending the survey to all the BSMP students who came to KU.

I am finishing my doctoral degree in education and I'm writing my dissertation about international students who are participating on non-degree programs in the US, and I'm focusing on the Brazil Scientific Mobility students' experience at KU as part of Jayhawk Semester. This survey is completely voluntary, and shouldn't take more than 10 minutes. There are 26 questions on the survey. You should also know that the **survey is anonymous and confidential**, so we will not be able to see who answered the survey and what their answers were. Please see the attached informed consent statement for more information.

The survey can be done online. Please click the following link to complete the survey:

http://kuclas.qualtrics.com/SE/?SID=SV_5iD5QkvWMmA0dq5

Although BSMP has ended, my goal is that the research will help improve the program at KU and other programs like it and will benefit future students on these types of programs.

I would greatly appreciate your help. If you have any questions, or would like to see the results of the survey, please let me know.

All the best,

Celeste

Celeste M. Yaluk
University of Kansas
Ed.D. candidate, Educational Leadership and Policy Studies

Informed Consent Statement

The Department of Educational Leadership and Policy Studies at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

We are conducting this study to better understand the students' experience on the Brazil Scientific Mobility and Jayhawk Semester Programs. This will entail you to complete a survey. Your participation is expected to take approximately 15 minutes to complete. The content of the survey should cause no more discomfort than you would experience in your everyday life.

Although participation may not benefit you directly, we believe that the information obtained from this study will help us gain a better understanding of BSMP and Jayhawk Semester Program, as well as guide us in improving support for students on the Jayhawk Semester Program. Your participation is solicited, although strictly voluntary. Your responses will be confidential, and your name will not be associated in any way with the research findings. Your identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response.

If you would like additional information concerning this study before or after it is completed, please feel free to contact us by phone or mail.

Completion of the survey indicates your willingness to take part in this study and that you are at least 18 years old. If you have any additional questions about your rights as a research participant, you may call (785) 864-7429 or write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, email irb@ku.edu.

Sincerely,

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Survey

Q1 When did you first come to KU to participate in the Jayhawk Semester Program (previously called Visiting Student Program)?

- Summer 2012 (1)
- Fall 2012 (2)
- Spring 2013 (3)
- Summer 2013 (4)
- Fall 2013 (5)
- Spring 2014 (6)
- Summer 2014 (7)
- Fall 2014 (8)
- Spring 2015 (9)
- Summer 2015 (10)
- Fall 2015 (11)

Q1a Including summer semesters, how many semesters were you at KU?

- 1 semester (1)
- 2 semesters (2)
- 3 semesters (3)
- 4 semesters (4)

Q2 What were your approximate grades at KU?

- Mostly As (1)
- Mostly Bs (2)
- Mostly Cs (3)
- Mostly Ds (4)
- Mostly Fs (5)

Q3 I put a lot of effort into my classes and the time I spent at KU.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q4 Did you participate in student orientation?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To End of Block

Q5 Orientation provided me with helpful information about KU.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q6 Did you take classes in the Applied English Center (AEC)?

- Yes (1)
- No (2)

Q7 How often did you communicate through email or meetings with staff (Celeste, Diana or Sonya) from the Jayhawk Semester Program to answer academic or personal questions?

- Frequently (1)
- Often (2)
- Sometimes (3)
- Rarely (4)
- Never (5)

Q8 The Jayhawk Semester Program staff provided me with helpful information.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q9 I received the kind of academic support from the Jayhawk Semester Program that I expected.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q10 How often did you participate in social and cultural extracurricular activities at KU?
Examples include sporting or cultural events or joining student clubs.

- Frequently (1)
- Often (2)
- Sometimes (3)
- Rarely (4)
- Never (5)

Q11 The extracurricular activities made me feel welcome and were helpful to me while I was studying at KU.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q12 Did you participate in Academic Training (internship or research in the summer semester)?

- Yes (1)
- No (2)

Q13 While at KU, I developed close personal friendships with students from other countries (including the United States).

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q14 I was happy with my living/residence arrangement at KU.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q15 I felt like I belonged at KU.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q16 My courses at KU were intellectually stimulating.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q17 My interactions with KU professors and staff positively influenced my future goals.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q18 KU professors and staff members I have had contact with are genuinely interested in helping students.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q19 I am satisfied with my academic experience at KU.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q20 I plan to go to graduate school and pursue a master's or PhD degree.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q21 Please respond to the following statements about your experience participating in the Jayhawk Semester Program.

	Strongly agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
Overall, I improved my English proficiency. (1)	•	•	•	•	•	•	•
I am more aware of cultural differences. (2)	•	•	•	•	•	•	•
I improved my research skills or knowledge of work in my field. (3)	•	•	•	•	•	•	•

Q22 The support and help from the Jayhawk Semester Program met my expectations.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q23 Attending KU as part of the Jayhawk Semester Program was a good decision for me.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q24 What is your gender?

- Female (1)
- Male (2)

Q25 What is your field of study?

- Architecture/Urban Planning (1)
- Engineering (2)
- Pharmacy (3)
- Sciences (4)
- Social Sciences (5)
- Other (please specify) (6) _____